

VX-800

UHF Band Service Manual

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Introduction

The Vertex Standard VX-800 is a compact, hand-held portable transceiver for the UHF land mobile bands that offers the convenience of small size, light weight, and simple operation. The VX-800 can be programmed by your Vertex Standard Dealer with up to 200 channels for both single and split frequency operation. The VX-800 provides up to 5 watts of RF output power and includes a flexible quick-connect antenna.

The transceiver and Ni-Cd, Li-Ion battery packs are constructed of thick high impact polycarbonate plastic, with special attention paid by the designers to tight sealing and ruggedness, assuring years of reliable operation even in harsh environments.

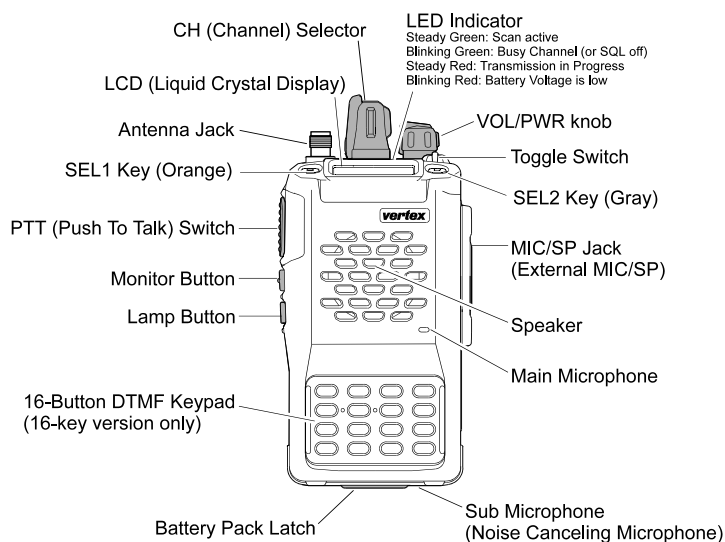
The following pages describe the operation, features and accessories of the VX-800. Following the discussion of transceiver operation, details regarding programming software, alignment, and maintenance will follow.

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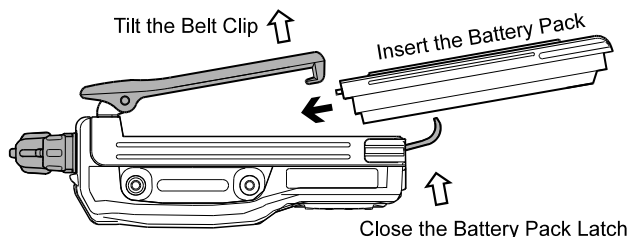
Controls & Connectors



BEFORE YOU BEGIN

Battery Pack Installation and Removal

- ❑ To install the battery, hold the transceiver with your left hand, so your palm is over the speaker and your thumb is on the top of the belt clip. Insert the battery pack into the battery compartment on the back of the radio while tilting the Belt Clip outward, then close the Battery Pack Latch until it locks in place with a "Click."



- ❑ To remove the battery, turn the radio off and remove any protective cases. Open the Battery Pack Latch on the bottom of the radio, then slide the battery downward and out from the radio while unfolding the Belt Clip.



Do not attempt to open any of the rechargeable Lithium-Ion and Ni-Cd packs, as they could explode if accidentally short-circuited.

Low Battery Indication

- ❑ As the battery discharges during use, the voltage gradually becomes lower. When the battery voltage reaches 6.0 volts, it is time to substitute a freshly charged battery and recharge the depleted pack. The **LED** indicator on the top of the radio will blink red when the battery voltage is low (6 Volts or lower).

- ❑ Avoid recharging Ni-Cd batteries often with little use between charges, as this can degrade the charge capacity. We recommend that you carry an extra, fully-charged pack with you so the operational battery may be used until depletion (this "deep cycling" technique promotes better long-term battery capacity).

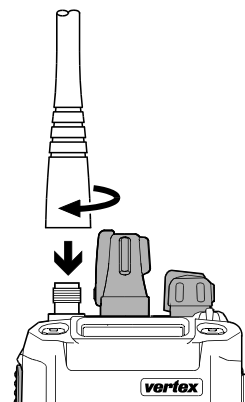
Notice !

There are no owner-serviceable parts inside the transceiver. All service jobs must be referred to an authorized **Vertex Standard** Service Representative. Consult your Authorized **Vertex Standard** Dealer for installation of optional accessories.

OPERATION

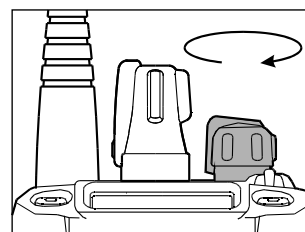
Preliminary Steps

- ❑ Install a charged battery pack onto the transceiver, as described previously.
- ❑ Screw the supplied antenna onto the Antenna jack. Never attempt to operate this transceiver without an antenna connected.
- ❑ If you have a Speaker/Microphone, we recommend that it not be connected until you are familiar with the basic operation of the **VX-800**.

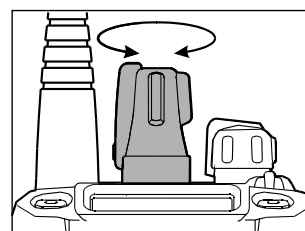


Operation Quick Start

- ❑ Turn the top panel's **VOL/PWR** knob clockwise to turn on the radio on.



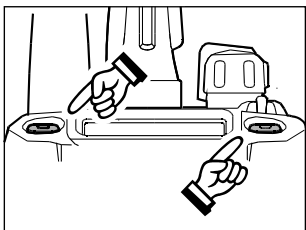
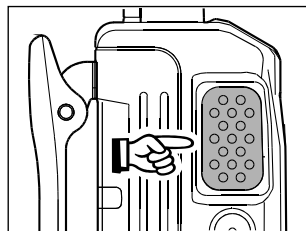
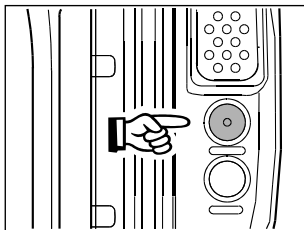
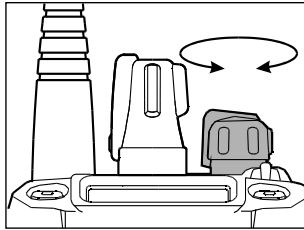
- ❑ Pull and turn the top panel's **CH** selector knob to choose the desired operating channel. A channel name will appear on the LCD. If you want to select the operating channel from a different Memory Channel Group, pressing the **Soft** key (assigned to the Memory Group Up or Down function) to



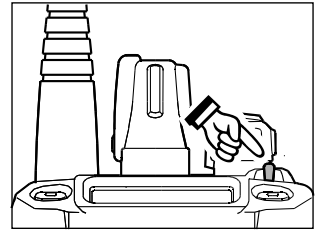
select the Memory Channel Group to be you want before selecting the operating channel. A group name will appear on the LCD whenever the **Soft** key is pressed.

*Note: Some models are programmed so that the operating channels are selected by the Soft key and the memory channel group is selected by the channe selector knob. For further details, contact your **Vertex Standard** dealer.*

- ❑ Rotate the **VOL/PWR** knob to set the volume level. If no signal is present, press and hold in the **Monitor** button (the center button on the left side) more than 2 seconds; background noise will now be heard, and you may use this to set the **VOL/PWR** knob for the desired audio level. Press and hold the **Monitor** button more than 2 seconds (or press the **Monitor** button twice) to quiet the noise and resume normal (quiet) monitoring.
- ❑ To transmit, press and hold the **PTT** switch. Speak into the microphone area of the front panel grille (lower right-hand corner) in a normal voice level. To return to the Receive mode, release the **PTT** switch.
- ❑ Press the **Soft** key (if assigned to the Scan function) or switch the **Toggle** Switch to the assigned "Scan" position (when so programmed by your dealer) to start the scanner. The scanner rapidly steps through each of the dealer-programmed channels, looking for incoming calls.



- ❑ Press the top panel's **SEL1/SEL2** key to activate one of the preprogrammed functions which may have been enabled at the time of programming by the dealer. Similarly, when using the 16-key version, the [A], [B], [C], and [D] function keys activate one of these functions, if programmed by the dealer. See the next section for details regarding the available features.
- ❑ Switch the top panel's **Toggle** Switch to the [A], [B] or [Center] position to activate one of the preprogrammed functions which may have been enabled at the time of programming by the dealer. When this switch is in the [A (left)], [B (right)] or [Center] position, the feature programmed (by your dealer) to that switch position will be activated. See the next section for details regarding the available features.
- ❑ Press the **DTMF** keys on the telephone keypad while pressing the **PTT** switch to send DTMF tones (16-key version only).
- ❑ If a Speaker/Microphone is available, remove the plastic cap and its two mounting screws from the right side of the transceiver, then align the connector of the Speaker/Microphone on the transceiver body; secure the connector pin using the screws supplied with the Speaker/Microphone. Hold the speaker grille up next to your ear while receiving. To transmit, press the **PTT** switch on the Speaker/Microphone, just as you would on the main transceiver's body, and speak into the microphone on a normal voice level.



Note: Save the original plastic cap and its mounting screws. They should be reinstalled when not using the Speaker/Microphone.

ADVANCED OPERATION

Soft Key and Toggle Switch Functions

The **VX-800** includes the [SEL1], [SEL2], [MON], and [LAMP] Keys, and the **Toggle** Switch, while the 16-key version additionally provides [A], [B], [C], [D] function Keys. The **Soft** key and **Toggle** Switch functions can be customized, via programming by your **Vertex Standard** dealer, to meet your communications/network requirements. Some features may require the purchase and installation of optional internal accessories. The possible **Soft** key and **Toggle** Switch programming features are illustrated at the

Operating Manual Reprint

right, and their functions are explained on page 8. For further details, contact your **Vertex Standard** dealer. For future reference, check the box next to each function that has been assigned to the **Soft** key and **Toggle** Switch on your particular radio, and keep it handy.

Functions	Toggle Switch (Position)		
	A	center	B
None			
Channel Scan			
Dual Watch			
High/Low Power			
Talk Around			
TX Save Disable			
LCD Invert			
Encryption Disable*			
Lock			
Follow-Me Scan			
Group recall Shortcut	Group 1 Group 2 Group 3	Group 1 Group 2 Group 3	Group 1 Group 2 Group 3

* requires DTMF/Encryption Unit

Functions	Soft Key			
	SEL1	SEL2	MON	LAMP
None				
Channel Scan				
Dual Watch				
High/Low Power				
Talk Around				
TX Save Disable				
LCD Invert				
Encryption Disable*				
Follow-Me DW				
Call/Reset*				
Speed Dial*				
Emergency*				
Group Up				
Group Down				
Channel Up				
Channel Down				
Monitor				
Lamp				

* requires DTMF/Encryption Unit

Functions	Soft Key			
	A	B	C	D
None				
Channel Scan				
Dual Watch				
High/Low Power				
Talk Around				
TX Save Disable				
LCD Invert				
Encryption Disable*				
Follow-Me DW				
Call/Reset*				
Speed Dial*				
Emergency*				
Group Up				
Group Down				
Channel Up				
Channel Down				
Monitor				
Lamp				

* requires DTMF/Encryption Unit

Description of Operating Functions

Channel Scan

The Scanning feature is used to monitor multiple signals programmed into the transceiver. While scanning, the transceiver will check each channel for the presence of a signal, and will stop on a channel if a signal is present.

One key or switch may be assigned to the **Scan** function, as follows:

- ☐ One of the **Soft** keys may be assigned for **Scan** operation; or
- ☐ The **Toggle** switch may have one position assigned to the **Scan** function.

To activate scanning:

- Press the assigned **Soft** key, or set the **Toggle** switch to the assigned position.
- The scanner will search the channels, looking for active ones; it will pause each time it finds a channel on which someone is speaking.

To stop scanning:

- Press the assigned **Soft** key, or set the **Toggle** switch to a different position.
- Operation will revert to the channel to which the **CH** knob is set.

Note: Your dealer may have programmed your radio to stay on one of the following channels if you press the PTT switch during scanning pause:

- Current channel (“Talk Back”)
- “Last Busy” channel
- “Priority” channel
- “Home” channel
- “Scan Start” channel

Dual Watch

The **Dual Watch** feature is similar to the **Scan** feature, except that only two channels are monitored:

- ☐ The current operating channel; and
- ☐ The “Priority” channel.

To activate **Dual Watch**:

- Press the assigned **Soft** key, or set the **Toggle** switch to the assigned position.
- The scanner will search the two channels; it will pause each time it finds a channel on which someone is speaking.

To stop scanning:

- Press the assigned **Soft** key, or set the **Toggle** switch to a different position.
- Operation will revert to the channel to which the **CH** knob is set.

High/Low Power

Press the assigned **Soft** key or switch the **Toggle** Switch to the assigned position to set the radio’s transmitter to the “Low Power” mode, thus extending battery life. Press the assigned **Soft** key again or switch the **Toggle** Switch to the other Position to return to “High Power” operation when in difficult terrain.

Talk Around

Press the assigned **Soft** key or switch the **Toggle** Switch to the assigned position to activate the Talk Around feature when you are operating on duplex channel systems (separate receive and transmit frequencies, utilizing a “repeater” station). The Talk Around feature allows you to bypass the repeater station and talk directly to a station that is nearby. This feature has no effect when you are operating on “simplex” channels, where the receive and transmit frequencies are already the same.

Note that your dealer may have made provision for “Talk Around” channels by programming “repeater” and “Talk Around” frequencies on two adjacent channels. If so, the key may be used for one of the other Pre-Programmed Functions.

TX Save Disable

Press the assigned Soft key or switch the Toggle Switch to the assigned position to disable the Transmit Battery Saver, if you are operating in a location where high power is almost always needed.

The Transmit Battery Saver helps extend battery life by reducing transmit power when a very strong signal from an apparently nearby station is being received. Under some circumstances, though, your hand-held radio may not be heard well at the other end of the communication path, and high power may be necessary at all times.

LCD Invert

Press the assigned **Soft** key or switch the **Toggle** Switch to the assigned position inverts the LCD display to backward-facing readout (the backward display is convenient for viewing when wearing the transceiver on your belt). Press the assigned **Soft** key again or switch the **Toggle** Switch to the other Position return the LCD display to frontward-facing readout.

Encryption Disable

Press the assigned **Soft** key or switch the **Toggle** Switch to the assigned position to turn off the optional voice encryption unit temporarily, for use when an incorrect setting of (or failure in) the encryption system at one end of the communication path has made it impossible to talk to the other station.

Remember that disabling the encryption will mean that your transmissions are no longer secure. Return to the encrypted mode as soon as possible, and do not discuss any critical or confidential information while in the non-encrypted mode of operation.

Lock

Switch the **Toggle** Switch to lock the top-panel keys; this can be enabled to prevent radio settings from being disturbed.

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Follow-Me Scan

“Follow-Me” Scan feature checks a User-assigned Priority Channel regularly as you scan the other channels. Thus, if only Channels 1, 3, and 5 (of the 8 available channels) are designated for “Scanning,” the user may nonetheless assign Channel 2 as the “User-assigned” Priority Channel via the “Follow-Me” feature.

To activate “Follow-Me” scanning, first select the channel you want to designate as the “User-Assigned Priority Channel” and Switch the **Toggle** Switch to the assigned position. Then turn the **CH** selector knob to the “Scanning Start” channel which has been programmed by your dealer to activate the scanner. When the scanner stops on an “Active” channel, the User-assigned Priority Channel will automatically be checked every few seconds; if activity is found on the User-assigned Priority Channel, the radio will switch between it and the Dealer-Assigned Priority Channel, if any.

Follow-Me DW

To set up a “Dual Watch” frequency pair using the “Follow-Me” feature, select a channel using the **CH** selector knob. Now press the assigned **Soft** key; pressing the assigned **Soft** key locks the current channel as the User-assigned Priority Channel. Now rotate the **CH** selector knob to another channel (not the “Scanning Start” channel). Your radio will now switch back-and-forth between the currently-selected channel (shown on the **CH** selector knob) and the User-assigned Priority Channel.

During “Follow-Me” scanning (after you have pressed the key), you can set up the “Dual Watch” feature by rotating the **CH** selector knob to another channel. The radio will then scan back and forth between the original User-assigned Priority Channel and the newly-selected channel.

The Priority Channel you have assigned (before pressing the key) will be retained in memory until you change it.

Channel Group Selection

The VX-800 is capable of separating its 200 memory channels into any of ten Groups. There is no limit as to the number of channels which may be assigned

to each Group. The Dealer will have made the Group assignment at the time of channel programming. At the same time, one of the Soft Keys will be assigned as the Channel Group Selection key.

To change Channel Groups, press the assigned soft key to step through the available Groups. Once the desired Group is reached, rotate the **CH** selector knob to select the desired channel within the selected Group.

You may wish to have the Scanner (described previously) pass through more than one Group during the scanning process (normally, scanning is performed within the current group only). To include the current Group in the scanning loop, press and hold in the assigned **Soft** key for one second.

To remove a Group from Group Scan, press and hold in the assigned **Soft** key again for one second.

Multi-Group Scanning is only possible if you are using the “User Scan” list.

The VX-800 has two scanning “lists:” the “Dealer Scan” list and the “User Scan” list. The “Dealer Scan” list is a fixed group of stations which will be included when scanning is activated. The “User Scan” list is a different list, initially arranged by the Dealer, which may be modified by the User (if, for example, you want to delete one or more of these channels from the scanning list).

To edit the User Scan list, press and hold the **Soft** key (assigned to the Group Up/Down function) to delete the current Memory Group from the Scanning. Alternatively, press and hold the “Scan” **Soft** key for one second to delete the Current Memory channel from the Scanning.

When you delete a Group or channel, “-SKIP-” will appear on the LCD for one second after pressing the **Soft** key. To restore a particular channel to your scanning list, press and hold in the **Soft** key again for one second; “-STOP-” will appear on the LCD for one second after pressing the Soft key.

Call/Reset

This feature, if enabled, allows the user to change the 3-digit Page Call code, used to call other similarly-equipped stations. Press the Dealer-assigned **Soft** key, followed by the three digits representing the Page Call code of the station you wish to call. Three tones will be heard after the last key is pressed (the new code will now be transmitted).

The receiver squelch of the other station will be opened, and you can begin communication.

Speed Dial

Your Dealer may have pre-programmed Auto-Dial telephone number memories into your radio.

To dial a number, press the numbered key corresponding to the Auto-Dial memory number list provided by your Dealer while pressing the PTT switch. Once the telephone number has begun (you will hear the tones in the speaker), you can release the PTT switch.

Emergency

The VX-800 includes an "Emergency" feature which may be useful if you have someone monitoring on the same frequency as your transceiver's channel. For further details contact your nearest dealer.

ARTS (AUTO RANGE TRANSPOND SYSTEM)

This system is designed to inform you when you and another ARTS-equipped station are within communication range.

During ARTS operation, your radio automatically transmits for about 1 second every 25 seconds (the interval is programmed by the Dealer) in an attempt to shake hands with the other station.

If you move out of range for more than two minutes, your radio senses that no signal has been received, a ringing beeper will sound, and "OUT OF SERVICE" will scroll on the LCD. If you subsequently move back into range, as soon as the other station transmits, your beeper will sound, and "IN SERVICE" will scroll on the LCD.

DTMF PAGING SYSTEM

This system allows paging and selective calling, using DTMF tone sequences.

When your radio is paged by a station bearing a tone sequence which matches yours, your radio's squelch will open and the alert ringer will sound (unless you have disabled it, as described previously).

The three-digit code of the station which paged you will be displayed on your radio's LCD.

ACCESSORIES & OPTIONS

FVP-25	Encryption/DTMF Pager Unit
F2D-8	2-Tone Decode Unit
FNB-V57	7.2 V 1100 mAh Ni-Cd Battery
FNB-V57IS	Intrinsically-Safe 7.2 V 1100 mAh Ni-Cd Battery
FNB-V62LI	7.4 V 1600 mAh Lithium-Ion Battery
FBA-25A	Battery Case
VAC-800	Rapid Desktop Charger (for FNB-V57, FNB-V57IS, FNB-V62LI)
NC-77B	120 VAC Compact Wall Charger for FNB-V57/-V57IS
NC-77C	230-240 VAC Compact Wall Charger for FNB-V57/-V57IS
NC-77F	220 VAC Compact Wall Charger for FNB-V57/-V57IS
NC-77U	230 VAC Compact Wall Charger for FNB-V57/-V57IS
VTP-50	VX-Trunk Unit
MH-50A7A	Speaker/Microphone
CT-70	CT-29 to Radio Programming Cable
CT-71	PC Programming Cable
CT-72	Radio to Radio Programming Cable
ATU-6C	440~470 MHz Antenna
ATU-6D	450-485 MHz Antenna

Availability of accessories may vary; some accessories are supplied as standard per local requirements, others may be unavailable in some regions. Check with your Vertex Standard Dealer for changes to the above list.

Set (Menu) Mode Functions

One or more of the radio's "Soft Keys" may be enabled for a function associated with the "Set" (Menu) mode. This feature, when activated, allows the user to customize certain performance aspects of the VX-800. Note that some of these items may also appear as available "Soft Keys," described below.

The operating procedure for the Menu mode is quite simple, requiring only a few easily-remembered actions on the user's part.

The VX-800 Soft Keys include the [SEL1], [SEL2], [MON], and [LAMP] Keys, plus the [A], [B], [C], and [D] keys on the 16-key version. The Soft Key functions can be assigned either as a "Menu" function or an "operating" function at the time of programming.

Basic Menu Mode Operation

1. Press the appropriate Soft Key to activate a Menu function. The available keys include the [SEL1], [SEL2], [MON], and [LAMP] Keys, plus the [A], [B], [C], and [D] keys on the 16-key version.
2. Rotate the top panel's **CH** selector knob to select the feature you wish to view and/or modify.
3. Press the [SEL1] and/or [SEL2] keys to modify or adjust the current setting of this Menu item ("On" to "Off," etc.)
4. Rotate the **CH** selector to save the new setting.
5. Press the **PTT** switch to exit the Set (Menu) mode.

Available Soft Key Menu Functions

No.1 SQL (Squelch Level)

After selecting this Menu, press the [SEL1] or [SEL2] key to find the point where the background noise is just silenced. This is the point of best receiver sensitivity consistent with quiet monitoring. The scale for the Squelch Level adjustment is 0 ~ 11 and 12 (RSSI SQL). The default value is 8.

When the Squelch Level set to "12" activates the RSSI (Received Signal Strength Indicator) Squelch feature, which allows you to set the squelch so that only signals exceeding a prescribed RX signal input level will open the squelch. The RX signal input level is determined via the Alignment Program SVC31. See page 20 for details regarding the RSSI level setting.

No.2 LIST (Scanning List)

The VX-800 has two scanning "list:" the "Dealer Scan" list and the "User Scan" list. The "Dealer scan" list is a fixed group of stations which will be included when scanning is activated. The "User Scan" list is a different list, initially arranged by the dealer, by the User.

This Menu Item allows you to select the scanning list "Dealer Scan" or "User Scan".

After selecting this Menu, press the [SEL1] or [SEL2] key to select the Scan List in which you wish to scan ("LIST DLR: Dealer List" or "LIST USR: User List"). Rotate the CH selector knob to save the new setting, then press the PTT switch to exit the Set (Menu) mode.

No.3 BEEP (Keypad Beeper On/Off)

After selecting this Menu, press the [SEL1] or [SEL2] key to enable (ON) or disable (OFF) the keypad beep tones. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

No.4 BELL (CTCSS/DCS/Paging Alert Bell On/Off)

After selecting this Menu, press the [SEL1] or [SEL2] key to enable (ON) or disable (OFF) the alert bell which sounds when your radio is called using either CTCSS or DCS calling tones. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

No.5 LGT (TX/BUSY LED On/Off)

After selecting this Menu, press the [SEL1] or [SEL2] key to enable (ON) or disable (OFF) the LED which serves as the Busy Channel and Transmitter On indicator. Turning this LED off will extend battery life somewhat. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

No.6 LOCK (Keypad, PTT, or Knob Disabling)

In some situations, you may wish to disable the keypad's keys, the **CH** selector knob, and/or the **PTT** switch (so as to prevent transmission by unauthorized users of the radio). LOCK Menu determines which features will be disabled when the LOCK function is engaged.

Set (Menu) Mode Functions

After selecting this Menu, press the [SEL1] or [SEL2] key to select "P" (PTT Lock), "D" (Dial-Knob-Lock), "K" (Keypad Lock), or various combinations of these. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

No.7 GROUP (Group Select)

This Menu Item allows you to change Channel Groups, in the event that a Soft Key has not been designated for this purpose. After selecting this Menu, press the [SEL1] or [SEL2] key to select the Channel Group in which you wish to operate. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

No.8 SCAN (Scan Mode On/Off)

This Menu Item allows you to start the scanner, in the event that a **Soft** Key has not been designated for this purpose.

After selecting this Menu, press the [SEL1] or [SEL2] key to start ("SCAN ON") or stop ("SCAN OFF") the scanner. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

No.9 DW (Dual Watch On/Off)

This Menu Item allows you to activate the Dual Watch feature, in the event that a **Soft** Key has not been designated for this purpose.

After selecting this Menu, press the [SEL1] or [SEL2] key to enable ("DW ON") or disable ("DW OFF") the Dual Watch feature. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

No.10 TA (Talk Around)

This Menu Item allows you to activate the Talk Around feature, in the event that a **Soft** Key has not been designated for this purpose.

After selecting this Menu, press the [SEL1] or [SEL2] key to enable ("TA ON") or disable ("TA OFF") the Talk Around feature. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

No.11 ENCR (Encryption)

On channels where scrambling is used, an incorrect setting of (or failure in) the encryption system at one end of the communication path will make it impossible to talk to the other station. To change the current status of encryption on your radio, after selecting this Menu, press the [SEL1] or [SEL2] key to enable (ENCR EN) or disable (ENCR DI) encryption. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

Remember that disabling encryption will mean that your transmissions are no longer secure.

Return to the encrypted mode as soon as possible, and do not discuss any critical or confidential information while in the non- encrypted mode of operation.

No.12 AF VR

This Menu Item determine the audio volume level where the top panel's **VOL** knob is set to fully counterclockwise position (but not into the click stop).

After selecting this Menu, press the [SEL1] or [SEL2] key to select the desired volume level. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

No.13 BP VR (Beep VR)

This Menu Item determine the beep volume level.

After selecting this Menu, press the [SEL1] or [SEL2] key to select the desired level. Rotate the **CH** selector knob to save the new setting, then press the **PTT** switch to exit the Set (Menu) mode.

Set (Menu) Mode Functions

Note:

GENERAL

Frequency Range:	400-430 MHz (Ver A), 440-470 MHz (Ver CS), 450-490 MHz (Ver D)
Number of Channels:	200 channels
Channel Spacing:	12.5/25 kHz
Battery Voltage:	7.4 VDC
Temperature Range:	-22 °F to 140 °F (-30 °C to +60 °C)
Frequency Stability:	better than ± 2.5 ppm
Case Size (WHD):	2.3" x 4.3" x 1.1" (58 x 110 x 28.9 mm) w/FNB-V62LI
Weight (approx.):	10.6 oz (300 grams) with FNB-V62LI, antenna, belt clip

RECEIVER

Circuit Type:	Double-conversion superheterodyne
IFs:	44.25 MHz & 450 kHz
12-dB SINAD Sensitivity:	$< 0.25 \mu\text{V}$
Squelch Sensitivity:	$< 0.25 \mu\text{V}$
Selectivity:	$> 75 \text{ dB (25 kHz)}/> 68 \text{ dB (12.5 kHz)}$
Intermodulation:	$> 75 \text{ dB (25 kHz)}/> 65 \text{ dB (12.5 kHz)}$
Spurious Rejection:	$> 75 \text{ dB}$
AF Output:	0.5 W @ 16 Ω , 3% THD (BTL output)

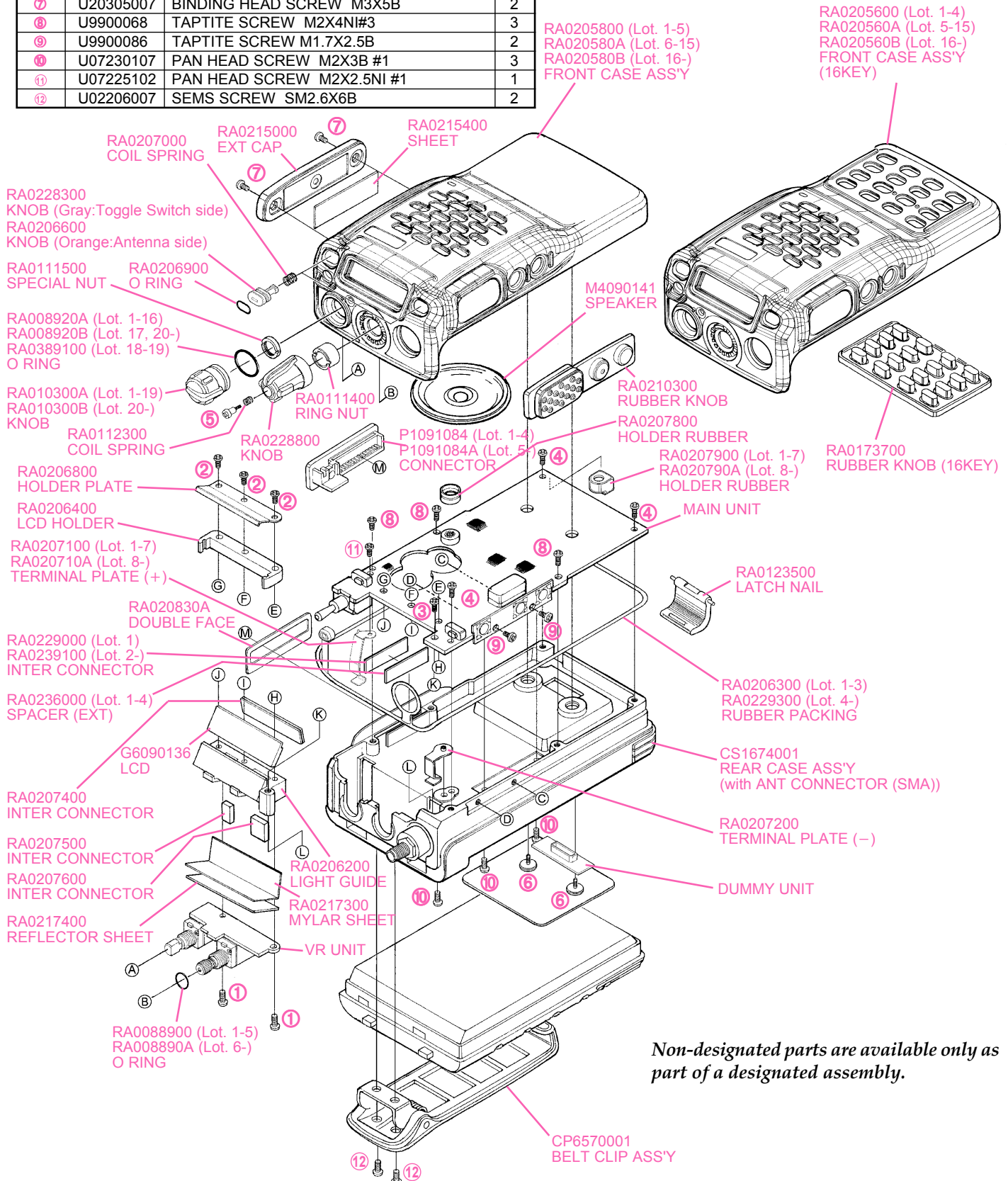
TRANSMITTER

Power Output:	5.0/2.5/1.0/0.25 W (Selectable)
Modulation System:	Direct FM
Maximum Deviation:	$\pm 5 \text{ kHz (25 kHz)}/\pm 2.5 \text{ kHz (12.5 kHz)}$
FM Noise:	$> 45 \text{ dB (25 kHz)}/> 40 \text{ dB (12.5 kHz)}$
Spurious Emission:	$> 70 \text{ dB below carrier}$
AF Distortion (@ 1 kHz):	$< 3 \%$
Microphone Type:	2-k Ω condenser

Specifications are subject to change without notice or obligation.

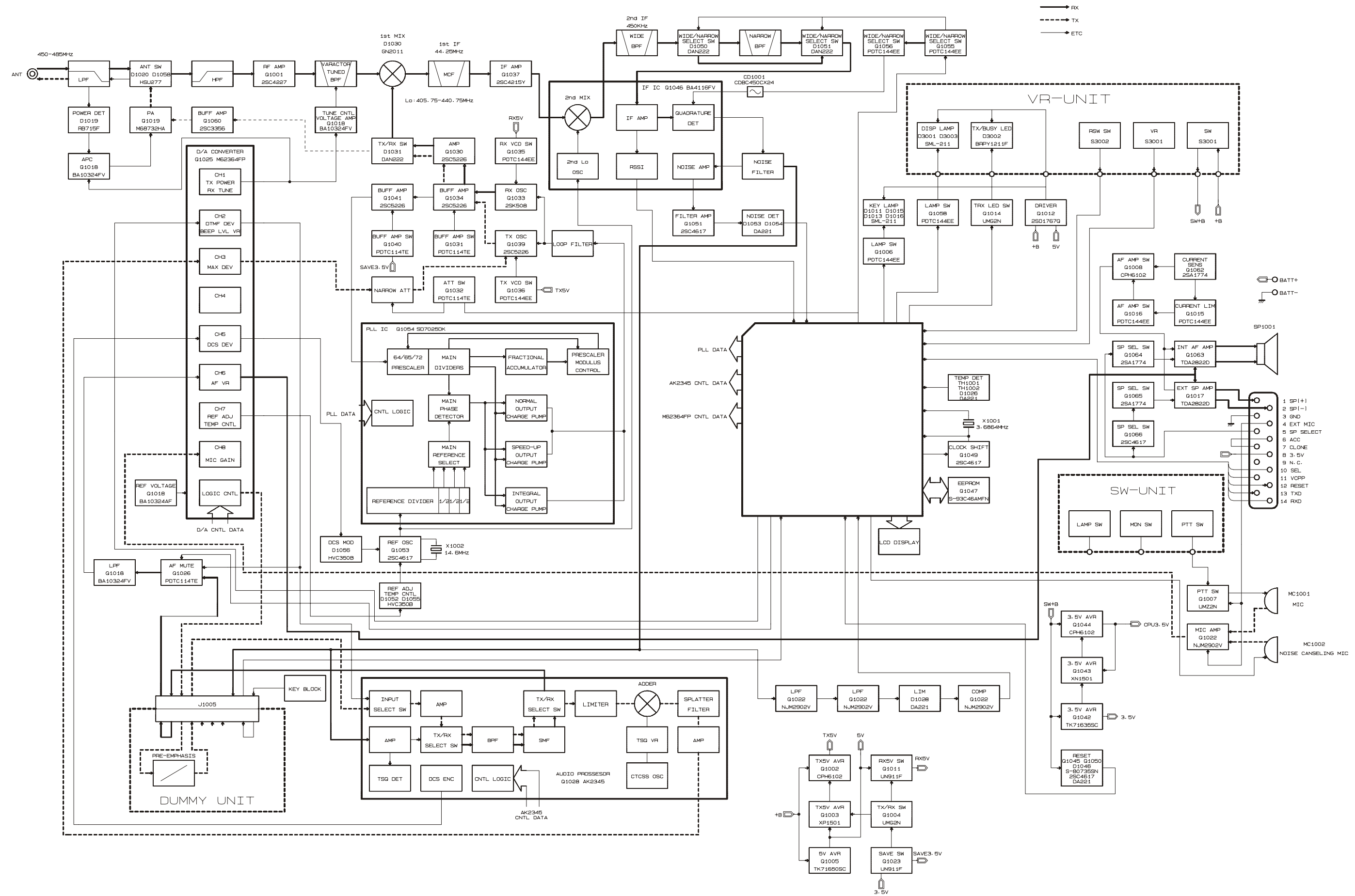
Exploded View & Miscellaneous Parts

REF.	VXSTD P/N	Description	Qty.
①	U9900094	TAPTITE SCREW M2X5NI#2	2
②	U9900069	TAPTITE SCREW M2X9.5NI#2	3
③	U9900092	PAN HEAD SCREW M1.7X14AU#2	1
④	U9900093	TAPTITE SCREW M1.7X5NI#2 (Lot. 1) TAPTITE SCREW M1.7X4NI#2GUIDE (Lot. 2-)	3
⑤	U9900084	BINDING HEAD SCREW M2X7.5B	1
⑥	U9900063	TAPTITE SCREW 2X3.3NI	2
⑦	U20305007	BINDING HEAD SCREW M3X5B	2
⑧	U9900068	TAPTITE SCREW M2X4NI#3	3
⑨	U9900086	TAPTITE SCREW M1.7X2.5B	2
⑩	U07230107	PAN HEAD SCREW M2X3B #1	3
⑪	U07225102	PAN HEAD SCREW M2X2.5NI #1	1
⑫	U02206007	SEMS SCREW SM2.6X6B	2



Non-designated parts are available only as part of a designated assembly.

Block Diagram



Block Diagram

Note:

Overview

The VX-800U is a UHF/FM hand-held transceiver designed to operate in the frequency range of 400 to 512MHz.

Circuit Configuration by Frequency

The receiver is a double-conversion superheterodyne with a first intermediate frequency (IF) of 44.25 MHz and a second IF of 450 kHz.

Incoming signals from the antenna are mixed with the local signal from the PLL to produce the first IF of 44.25 MHz. The first IF signal is subsequently mixed with the 43.8 MHz second local oscillator output (from the 14.6MHz reference crystal) to produce the 450 kHz second IF. The second IF is then demodulated to produce audio output.

The transmit signal frequency is generated by the PLL VCO, and is modulated by the signal from the microphone. It is then amplified and sent to the antenna.

Receive Signal Path

Front-end RF amplifier

Incoming RF energy from the antenna jack is delivered to the RF Unit and passes through a low-pass filter and high-pass filter consisting of coils L1004, L1005, L1006, L1030, L1001, L1028, L1029, L1002, and L1003, capacitors C1013, C1014, C1015, C1017, C1019, C1020, C1282, C1001, C1005, C1006, C1283, C1007, C1008, and C1009, and antenna switching diode D1020 (**HVU131**).

Signals within the frequency range of the transceiver are then amplified by Q1001 (**2SC5226**) and enter a varactor-tuned band-pass filter consisting of coils L1008, L1010, and L1011, capacitors C1041, C1042, C1044, C1045, C1046, C1047, C1068, C1069, C1070, C1071, C1072, C1073, C1074, and C1174, and diodes D1018, D1023, and D1024 (all **HVC350**) before delivery to the first mixer.

First Mixer

Buffered output from the VCO is amplified by Q1030 (**2SC5226**) to provide a pure first local signal between 355.75 and 467 MHz for injection to the first mixer D1030 (**GN2011-Q**:Lot. 1~50, **SPM5001**:Lot. 51~). The 44.25 MHz first IF product then passes through monolithic crystal filters XF1001 and XF1002

(44-11BF-P2, ± 5.5 kHz BW) to strip away unwanted mixer products.

IF amplifier

The first IF signal is amplified by Q1037 (**2SC4215Y**:Lot. 1~3, **2SC5226**:Lot. 4~).

The amplified first IF signal is then applied to FM IF subsystem IC Q1046 (**TA31136FN**) which contains the second mixer, second local oscillator, limiter amplifier, noise amplifier, and S-meter amplifier.

A second local signal is generated by Q1022 (**NJM2902V**) using the 14.6 MHz crystal (X1002) as a reference, producing a 43.8 MHz signal; this yields a 450 kHz second IF when mixed with the first IF signal within Q1046.

The second IF then passes through the ceramic filter CF1001 (**PBFC450R15D**:Lot. 1~39, **ELFY450E**:Lot. 40~) or CF1002 (**SFPCA450KG1A**:Lot. 1~50, **ELFC450G**:Lot. 51~: "Narrow" channels) to strip away all but the desired signal, and is applied to the limiter amplifier in Q1046, which removes amplitude variations in the 450 kHz IF, before detection of the speech by the ceramic discriminator CD1001 (**CDBC450KCAY24**:Lot. 1~50, **ECDA450C24**:Lot. 51~).

Audio amplifier

Detected audio from Q1046 is applied to Q1028 (**AK2345**) and an audio low-pass filter, and then fed past the volume control (Q1025: **M62364FP**) to the audio amplifier Q1017 (**TDA2822D**: external speaker) or Q1063 (**TDA2822D**: internal speaker), providing up to 0.5 Watts of audio to the optional headphone jack or 16-Ohm loudspeaker.

Attention: Audio output is BTL output.

Squelch Control

The squelch circuitry consists of a noise amplifier and band-pass filter within Q1046, and noise detector D1053 (**DA221**).

When no carrier received, noise at the output of the detector stage in Q1046 is amplified and band-pass filtered by the noise amplifier section of Q1046 and the network between pins 7 and 8, and then rectified by D1053.

Circuit Description

The resulting DC squelch control voltage is passed to pin 19 of the microprocessor Q1048. If no carrier is received, this signal causes pin 32 of Q1048 to go low and pin 89 to go high. Pin 32 signals Q1008 (**CPH6102**), Q1064 and Q1065 (both **UMC5N**) to disable the supply voltage to the audio amplifier Q1017 and Q1063, while pin 89 makes Q1014 (**UMG2N**) hold the green (Busy) half of the LED off.

Thus, the microprocessor blocks output from the audio amplifier, and silences the receiver while no signal is being received, and during transmission.

When a carrier appears at the discriminator, noise is removed from the output, causing pin 19 of Q1048 to go low and the microprocessor to activate the Busy LED via Q1048.

The microprocessor then checks for DTMF or CTCSS or CDCSS code squelch information, if enabled, respectively. If not transmitting and CTCSS or CDCSS is not activated, or if the received tone or code matches that programmed, the microprocessor stops scanning, if active, and allows audio to pass through the audio amplifier (Q1017 or Q1063) to the loudspeaker by enabling the supply voltage to it via Q1008, Q1064, and Q1065.

Transmit Signal Path

Microphone amplifier

Speech input from the microphone is amplified in Q1022 (**NJM2902V**), then filtered and sent to Q1025 (**M62364FP**), then on to the Dummy Unit (or an Optional Unit). The audio which is returned from the Dummy Unit passes through Q1028 (**AK2345**) to be pre-emphasized.

The processed audio is then mixed with a CTCSS tone generated by Q1028 (**AK2345**) and delivered to D1035 (**HVU350**) for frequency modulating the PLL carrier up to ± 5 kHz from the unmodulated carrier at the transmitting frequency.

If an external microphone is used, PTT switching is controlled by Q1007 (**UMZ2N**), which signals the microprocessor when the impedance at the microphone jack drops.

If a CDCSS code is enabled for transmission, the code is generated by microprocessor Q1048 and delivered to D1055 (**HVC350**) for CDCSS modulating.

If DTMF is enabled for transmission, the tone is generated by the microprocessor Q1048 and applied to the splatter filter section in place of speech audio. Also, the tone is amplified for monitoring in the loudspeaker.

Noise canceling microphone circuit

The two signals from internal microphone (main and sub) are injected to the positive input (sub) and to the negative input (main) of Q1022 (**NJM2902V**). If the same signal is injected to both the main and sub ports, the main signal is canceled at the output (pin 7 of Q1022). In other words, noise from nearby sources not directly connected to the transceiver enters the main and sub input at the same signal level and is therefore canceled out.

When a signal is only injected to the “main” port and there is no signal at sub, the main signal is allowed to flow, as is, from Q1022.

Driver and Final Amplifiers

The modulated signal from the VCO Q1039 (**2SC4227**) is buffered by Q1034 (**2SC5226-4/5**) and amplified by Q1030 (**2SC5226-4/5**) and Q1060 (**2SC3356-R25**). The low-level transmit signal is then applied to the Power Module Q1019 (**M68732HA-22**) for final amplification up to 5 watts output power.

The transmit signal then passes through the antenna switch D1020 (**HVU131**) and is low-pass filtered to suppress away harmonic spurious radiation before delivery to the antenna.

Automatic Transmit Power Control

RF power output from the final amplifier is sampled by C1016 and C1018, and is rectified by D1019 (**RB715F**). The resulting DC voltage is fed back through Q1018 (**NJM2902V**) to the Power Module, providing control of the power output.

The microprocessor selects either “High” or one of three “Low” power levels.

Transmit Inhibit

When the transmit PLL is unlocked, pin 18 of PLL chip Q1054 goes to a logic low. The resulting DC unlock control voltage is passed to pin 20 of the microprocessor Q1048. While the transmit PLL is unlocked, pin 85 of Q1048 remains low, which then turns off the Automatic Power Controller Q1010

(UMC5N) and Q1018 to disable the supply voltage to the Power Module Q1019, thus disabling the transmitter.

Spurious Suppression

Generation of spurious products by the transmitter is minimized by the fundamental carrier frequency being equal to final transmitting frequency, modulated directly in the transmit VCO. Additional harmonic suppression is provided by a low-pass filter consisting of L1004, L1005, and, L1006 and C1013, C1014, C1015, C1017, C1019, and C1020, resulting in more than 60 dB of harmonic suppression prior to delivery of the RF signal to the antenna.

PLL Frequency Synthesizer

The PLL frequency synthesizer consists of the VCO (Q1033 **2SK508-K52**: RX and Q1039 **2SC4227**: TX), VCO buffers Q1034 (**2SC5226-4/5**), Q1041 (**2SC5226-4/5**), Q1030 (**2SC5226-4/5**), PLL subsystem IC Q1054 (**SA7025DK**) and 14.6MHz reference crystal X1002.

The frequency stability is ± 2.5 ppm within the temperature range of -22°F to $+140^{\circ}\text{F}$ (-30°C to $+60^{\circ}\text{C}$).

The output of the 14.6 MHz reference is applied to pin 8 of the PLL IC. While receiving, VCO Q1033 oscillates between 355.75 and 467.75 MHz according to the transceiver version and the programmed receiving frequency. The VCO generates this 355.75 to 467.75 MHz frequency for provision of the first local signal. While transmitting, the VCO generates a signal at 400 to 512 MHz.

The output of the VCO is amplified by Q1041 and routed to the pin 5 of the PLL IC. The output of the VCO is also amplified by Q1030 and routed to the first local or Power Module according to D1031.

The PLL IC consists of a prescaler, fractional divider, reference divider, phase comparator, and charge pump. This PLL IC is a fractional-N type synthesizer and operates using a 40, 50, or 60 kHz reference signal which is the eighth harmonic of the channel step (5, 6.25 or 7.5 kHz). The input signal from pins 5 and 8 of the PLL IC is divided down to 40/50/60 kHz and compared at the phase comparator. The pulsed output signal of the phase comparator is applied to the charge pump and transformed into a DC signal in the loop filter. The DC signal is applied to the pin 1 of the VCO and locked to keep the VCO frequency constant.

PLL data is put out from "DTA" (pin 100), "CLK" (pin 2) and "PSTB" (pin 98) of the microprocessor Q1048. The data are passed to the PLL IC when the channel is changed or when transmission is switched to reception (and vice versa). The "PLL lock" condition is always monitored by pin 20 of Q1048. When the PLL is unlocked, the "UL" line goes low.

Miscellaneous Circuits

Push-To-Talk Transmit Activation

The PTT switch on the microphone is connected to pin 36 of microprocessor Q1048, so that when the PTT switch is closed, pin 85 of Q1048 goes high. This signals the microprocessor to activate the TX/RX controller Q1004 (**UMG2N**), which then disables the receiver by disabling the 5V supply bus at Q1011 (**UN911F**) to the front-end, FM IF subsystem IC Q1046, and receiver VCO circuitry.

At the same time, Q1003 (**XP1501**) and Q1002 (**CPH6102**) activate the TX 5V supply line to enable the transmitter.

Alignment

Introduction

The VX-800 is carefully aligned at the factory for the specified performance across the frequency range specified for each version. Realignment should therefore not be necessary except in the event of a component failure, or when altering the version type. All component replacement and service should be performed only by an authorized Vertex Standard representative, or the warranty policy may be void.

The following procedures cover the sometimes critical and tedious adjustments that are not normally required once the transceiver has left the factory. However, if damage occurs and some parts subsequently are placed, realignment may be required. If a sudden problem occurs during normal operation, it is likely due to component failure; realignment should not be done until after the faulty component has been replaced.

We recommend that servicing be performed only by authorized Vertex Standard service technicians who are experienced with the circuitry and fully equipped for repair and alignment. Those who do undertake any of the following alignments are cautioned to proceed at their own risk. Problems caused by unauthorized attempts at realignment are not covered by the warranty policy. Also, Vertex Standard reserves the right to change circuits and alignment procedures, in the interest of improved performance, without notifying owners.

Under no circumstances should any alignment be attempted unless the normal function and operation of the transceiver are clearly understood, the cause of the malfunction has been clearly pinpointed and any faulty components replaced, and realignment determined to be absolutely necessary.

Do not attempt to perform only a single step unless it is clearly isolated electrically from all other steps. Have all test equipment ready before beginning, and follow all of the steps in a section in the order presented.

The following test equipment (and thorough familiarity with its correct use) is necessary for complete realignment. Correction of problems caused by misalignment resulting from use of improper test equip-

ment is not covered under the warranty policy. While most steps do not require all of the equipment listed, the interactions of some adjustments may require that more complex adjustments be performed afterwards.

Required Test Equipment

- ☐ RF Signal Generator with calibrated output level at 1000 MHz
- ☐ Deviation Meter (linear detector)
- ☐ In-line Wattmeter with 5% accuracy at 1000 MHz
- ☐ 50- Ω RF Dummy Load with power rating 10W at 1000 MHz
- ☐ 16- Ω AF Dummy Load
(**Attention :** Audio output is BTL output; do not short "shield" to ground!)
- ☐ Regulated DC Power Supply (standard 7.5V DC, 3A)
- ☐ Frequency Counter with 0.2 ppm accuracy at 1000 MHz
- ☐ AC Voltmeter
- ☐ DC Voltmeter
- ☐ VHF Sampling Coupler
- ☐ IBM PC / compatible Computer with Microsoft DOS v3.0 or later operating system
- ☐ Vertex Standard CT-71 Connection Cable and SVC31 Alignment program

Alignment Preparation and Precautions

A 50- Ω RF Dummy Load and in-line wattmeter must be connected to the main antenna jack in all procedures that call for transmission, except where specified otherwise. Correct alignment is not possible with an antenna.

After completing one step, read the following step to determine whether the same test equipment will be required. If not, remove the test equipment (except dummy load and wattmeter, in connected) before proceeding.

Correct alignment requires that the ambient temperature be the same as that of the transceiver and test equipment, and that this temperature be held constant between 68 °F ~ 86 °F (20°C and 30°C). When the transceiver is brought into the shop from hot or cold air, it should be allowed time to come to room temperature before alignment.

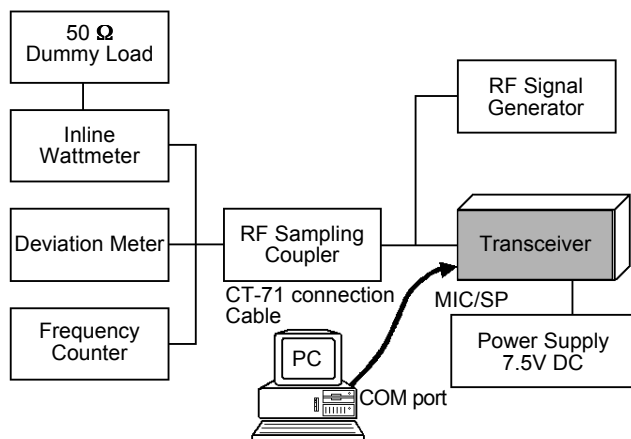
Whenever possible, alignments should be made with oscillator shields and circuit boards firmly affixed in place. Also, the test equipment must be thoroughly warmed up before beginning.

Note: Signal levels in dB referred to in the alignment procedure are based on 0 dBμ EMF = 0.5 μV (closed circuit).

Important Note

When connecting the CT-71 plug into the **MIC/SP** jack of the VX-800, you must remove the plastic cap and its mounting screws prior to programming. Please remember to re-attach the cap and screws when the programming is complete.

Setup the test equipment as shown for transceiver alignment, and apply 7.5V DC power to the transceiver. Refer to the drawings above for Alignment Points.



The transceiver must be programmed for use in the intended system before alignment is attempted. The RF parameters are loaded from the file during the alignment process.

In order to facilitate alignment over the complete switching range of the equipment it is recommended that the channel data in the transceiver is preset as the chart below.

Channels	Frequency (Simplex)		
	Ver. A	Ver. CS	Ver. D
Band-LOW	400.000	440.000	450.000
Band-MID	415.000	455.000	470.000
Band-HIGH	430.000	470.000	490.000

The alignment mode is accessed by an "Alignment mode" command from the computer while switching the transceiver on. And it is operated by the alignment tool automatically.

During the alignment mode, normal operation is suspended. Use the alignment tool program running on PC.

The alignment tool outline

Installation of the Alignment Tool

This alignment tool consists of an executable file "SVC31.exe" and an accompanying configuration file "SVC31.cfg" which should be loaded per standard DOS procedures. Create a suitable directory, then copy this file from the distribution diskette into the new directory. For example, if copying the file from Drive A, use the following DOS command sequence:

```
c:\ mkdir align800 [enter]
c:\ cd align800 [enter]
c:\ align800\ copy a:SVC31.*
```

No further installation steps are required. If you wish to utilize a different name for the alignment directory, it will not matter to the executable file.

Boot the Alignment Tool

Change to the "align800" directory (or the directory name you utilized in the previous section). Now type on the command line: SVC31 [ENTER] to boot the alignment tool.

Entering the Alignment Mode

To enter the alignment mode, turn the transceiver off, then press [0] on the computer keyboard. Now, turn the transceiver back ON. When the command has been successful, a message on the computer screen will confirm that the transceiver is now in the "Alignment" mode.

Action of the switches

When the transceiver is in alignment mode, the [PTT], [MON], and [DIAL] switches, as well as the Dial, are disabled. In the Alignment mode, all of the transceiver's operation is remotely controlled by PC.

Alignment

Alignment Sequence

Although the data displayed on the computer's screen during alignment is temporary data, it is important that you follow the basic alignment sequence precisely, so that the displayed data and the data loaded into the transceiver are identical.

Basic Alignment Sequence

1. Enter the alignment mode
2. Upload data from transceiver
3. Align data
4. Download data to transceiver

Alignment Tool Menu

Common Data

The parameters in this section represent "common" data for all channels. Once these "Common Data" parameters are correctly aligned, the "Tx POWER," "MAX DEV," and "SUB AUDIO DEV," can be trimmed for each channel, if needed.

During alignment, each parameter is adjusted for a higher or lower value via the computer's [▲] and [▼] keys. When the desired value is reached, type [ENTER] to lock in the new value.

(0) Common Tx :

The first alignment section adjusts transmit-mode parameters which are common to all channels.

- [0] FREQUENCY

This parameter is used to adjust the PLL reference frequency. From the "(0) Common Tx" section, press [0] to activate this alignment section.

- Press the [space] key on the keyboard to activate the transmitter.
- Press the [▲] or [▼] key, as need, so the counter frequency is within 100 Hz of the channel center frequency for the MID channel.
- When the frequency is attained, press [ENTER] to lock in the new data.
- Now verify that the HIGH and LOW channels are also within tolerance.

- [1] HIGH

This parameter is used to align Tx High power (5W). From the "(0) Common Tx" section, press [1] to activate this alignment section.

- Use the [◀] or [▶] key to select the "MID" frequency channel in the alignment range.

- Press the [space] key on the keyboard to activate the transmitter.
- Press the [▲] or [▼] key, as need, to set the power output to $5.1\text{ W} \pm 0.1\text{ W}$, as indicated on the external wattmeter.
- When the 5 Watt level is attained, press [ENTER] to lock in the new data.

- [2] L3

This parameter aligns the L3 power (2.5 W) level. From the "(0) Common Tx" section, press [4] to activate this alignment section.

- Press the [space] key on the keyboard to activate the transmitter.
- Press the [▲] or [▼] key, as needed, to set the power output to $2.5\text{ W} \pm 0.2\text{ W}$, as indicated on the external wattmeter.
- When the 2.5 W level is attained, press [ENTER] to lock in the new data.

- [3] L2

This parameter aligns the L2 power (1 W) level. From the "(0) Common Tx" section, press [3] to activate this alignment section.

- Press the [space] key on the keyboard to activate the transmitter.
- Press the [▲] or [▼] key, as needed, to set the power output to $1\text{ W} \pm 0.2\text{ W}$, as indicated on the external wattmeter.
- When the 1 Watt level is attained, press [ENTER] to lock in the new data.

- [4] L1

This parameter aligns the L1 power (0.25 W) level. From the "(0) Common Tx" section, press [2] to activate this alignment section.

- Press the [space] key on the keyboard to activate the transmitter.
- Press the [▲] or [▼] key, as needed, to set the power output to $0.25\text{ W} \pm 0.04\text{ W}$, as indicated on the external wattmeter.
- When the 0.25 W level is attained, press [ENTER] to lock in the new data.

- [5] MAXIMUM DEVIATION

This section adjusts the transmitter's voice deviation level. From the **"(0) Common Tx"** section, select [5] to enter this section.

- Use the [◀] or [▶] key to select the "MID" frequency channel in the alignment range.
- Disable any subaudible tone signalling on this channel, if present.
- Press the [space] key on the computer keyboard to start alignment. This activates the transmitter, and injects a 1 kHz test tone.
- Press the [▲] or [▼] key, as needed, to set the deviation to the desired value (typically 3.9 ~ 4.2 kHz, or 2.0 ~ 2.3 kHz for "narrow band" channels).
- When the desired deviation level is attained, press [ENTER] to lock in the new value.

- [6] MIC GAIN

This parameter is used to align MIC Gain level. From the **"(0) Common Tx"** section, press [6] to activate this alignment section.

- Use the [◀] or [▶] key to select the channel on which you wish to adjust the MIC Gain.
- Press the [space] key on the computer keyboard to start alignment. This activates the transmitter, and injects a subaudible test tone.
- Use the [▲] or [▼] key to find the desired MIC Gain level is achieved.
- Press the [ENTER] key on the computer keyboard to lock in the new MIC Gain level.

- [7] SUB AUDIO DEVIATION

This section adjusts the transmitter's subaudible tone deviation level. From the **"(0) Common Tx"** section, select [7] to enter this section.

- After setting the Maximum Deviation in the previous section, it is now time to align the subaudible signaling deviation level.
- Use the [◀] or [▶] key to select the channel on which you wish to adjust the Subaudible Deviation (select DCS code number 627, CTCSS 250.3 Hz).
- Press the [space] key on the computer keyboard to start alignment. This activates the transmitter, and injects a subaudible test tone.

- Press the [▲] or [▼] key, as needed, to set the deviation to the desired value (typically 0.6±0.2 kHz, or 0.4±0.2 kHz for "narrow band" channels).
- When the desired deviation level is attained, press [ENTER] to lock in the new value.

(1) Common RX :

- [0] TIGHT N SQUELCH

This parameter is used to align the "Tight Noise Squelch" level. From the **"(1) Common Rx"** section, select [0] to enter this section.

- Set the signal generator output level to -0dBμ EMF (0.5 μV).
- Press the [ENTER] key on your computer keyboard to set the "Tight" squelch level.

- [1] THRESHOLD N SQUELCH

This parameter is used to align the squelch threshold level. From the **"(1) Common Rx"** select [1] to enter this section.

- Set the signal generator output level to -10 dBμ EMF (0.16 μV).
- Press the [ENTER] key on your computer keyboard to set the squelch "Threshold" level.

- [2] RSSI (RECEIVED SIGNAL STRENGTH INDICATOR) SQUELCH

This section allows adjustment of the RSSI level. From the **"(1) Common Rx"** section, press [2] to enter this section.

- Set the signal generator output level to +3.0 dBμ EMF (0.7 μV).
- Press the [ENTER] key on the computer keyboard to set the RSSI squelch level.

- [3] Tx SAVE

This section allows adjustment of the Tx Save activation threshold (reducing the transmitter power in strong-signal environments). From the **"(1) Common Rx"** section, press [3] to enter this section.

- Set the Signal Generator output level to +15 dBμ EMF (2.8 μV).
- Press the [ENTER] key on the computer keyboard to lock in the TX Battery Saver threshold level.

Alignment

Channels

The following parameters may be adjusted individually for each channel. For example, minor variations in the power output across the operating band may be equalized by following this section's instructions.

(2) Channels TX :

- [0] Tx Hi Power TRIM

This parameter is used to trim Tx power on the displayed channel. From the "(2) Channels Tx" section, select [0] to adjust the "Tx Hi Power Trim" setting(s).

- Use the [◀] or [▶] key to select the channel to be adjusted.
- Press the [space] key on the keyboard to activate the transmitter.
- Press the [▲] or [▼] key, as needed, to trim the power output to the power that is programmed by CE31 channel editor, as indicated on the external wattmeter.
- Press [ENTER] to lock in the new data.

- [1] Tx Low Power TRIM (L1, L2 or L3)

This parameter is used to trim Tx power on the displayed channel. From the "(2) Channels Tx" section, select [1] to adjust the "Tx Low Power Trim" setting(s).

- Use the [◀] or [▶] key to select the channel to be adjusted.
- Press the [space] key on the keyboard to activate the transmitter.
- Press the [▲] or [▼] key, as needed, to trim the power output to the power that is programmed by CE31 channel editor, as indicated on the external wattmeter.
- Press [ENTER] to lock in the new data.

- [2] MAXIMUM DEVIATION TRIM

This parameter is to trim maximum deviation on the displayed channel. From the "(2) Channels Tx" section, select [2] to adjust the deviation level.

- Use the [◀] or [▶] key to select the channel on which you wish to adjust the deviation.
- Press the [space] key on the computer keyboard to start alignment. This activates the transmitter, and injects a 1 kHz test tone.
- Press the [▲] or [▼] key, as needed, to set the

deviation to the desired value (typically 3.9~4.2 kHz, or 2.0~2.3 kHz for "narrow band" channels).

- When the desired deviation level is attained, press [ENTER] to lock in the new value.

- [2] SUB AUDIO DEVIATION TRIM

This parameter used to is to trim Subaudible deviation on the displayed Sub-audio channel. From the "(2) Channels Tx" section, select [2] to adjust the Subaudible Deviation level.

- Use the [◀] or [▶] key to select the channel on which you wish to adjust the Subaudible Deviation.
- Press the [space] key on the computer keyboard to start alignment. This activates the transmitter, and injects a subaudible test tone.
- Press the [▲] or [▼] key, as needed, to set the deviation to the desired value (typically 0.6 ± 0.2 kHz, or 0.4 ± 0.2 kHz for "narrow band" channels).
- When the desired deviation level is attained, press [ENTER] to lock in the new value.

(3) Channels Rx :

- [0] MANUAL TUNING

This parameter is used to tune the RF front-end components for the current channel manually. From the "(3) Channels Rx" section, select [0] to peak the receiver performance.

- Use the [◀] or [▶] key to select the channel on which you wish to adjust the front end alignment.
- Connect the signal generator to the Antenna jack, and set its level to +20 dBμ EMF (5 μV).
- Press [ENTER] to lock in the new data.

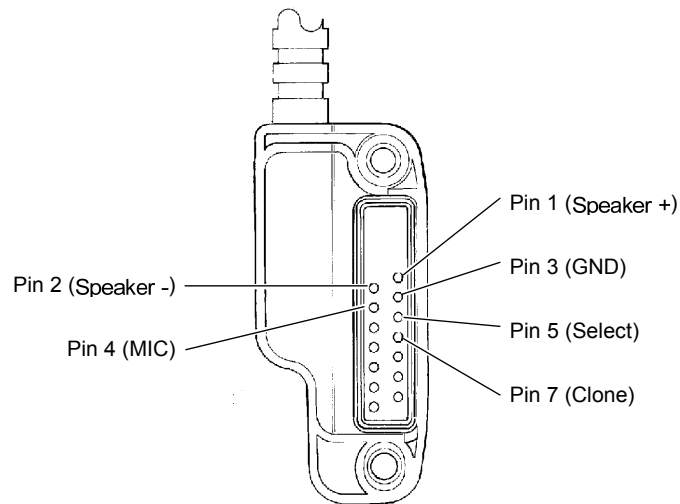
(4) Other :

- [0] BATTERY WARNING LEVEL

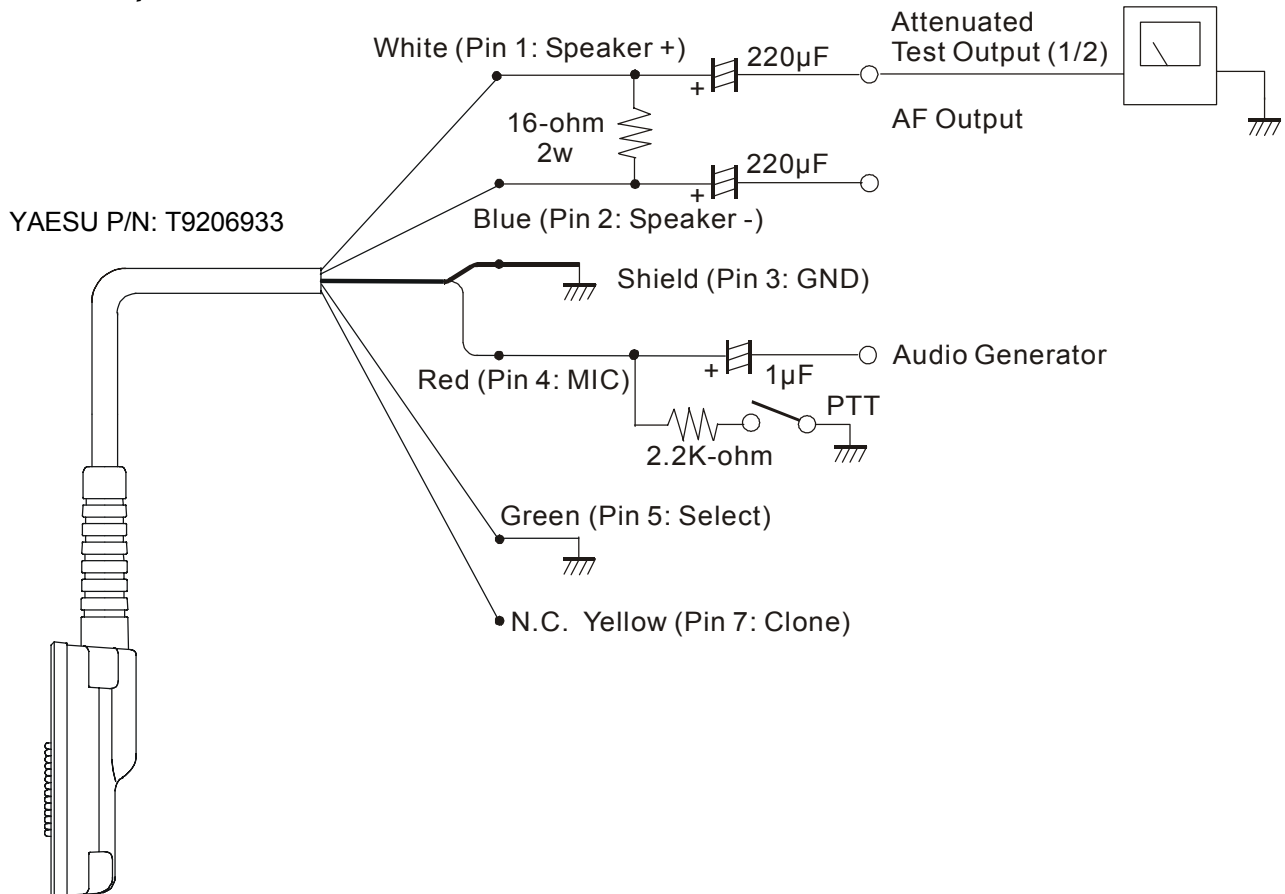
This parameter sets the battery warning level. From the "(4) Other" section, select [0] to align the battery warning voltage sensor.

- Set the DC supply voltage to 6.5 Volts.
- Press [ENTER] to lock in the new data.

Connector Pinout Diagram



AF Test Adapter Schematic



Note!

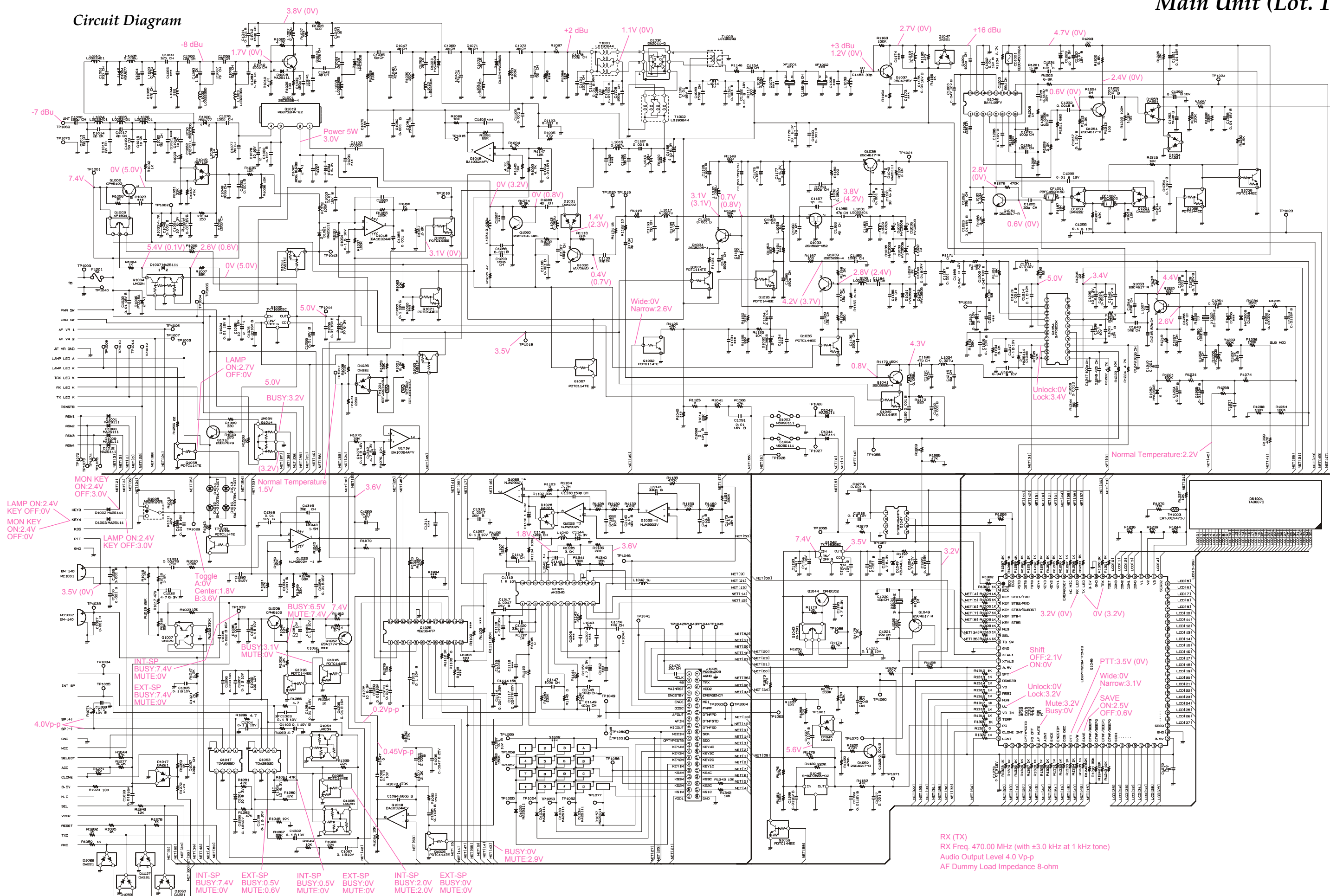
Because of the bridge audio amplifier circuit used in the VX-800, it is necessary to construct and use a simple audio load test adapter as shown in the schematic diagram above, when conducting receiver alignment steps.

Do not connect either side of the speaker leads to chassis "ground."

Note:

Main Unit (Lot. 1~3)

Circuit Diagram

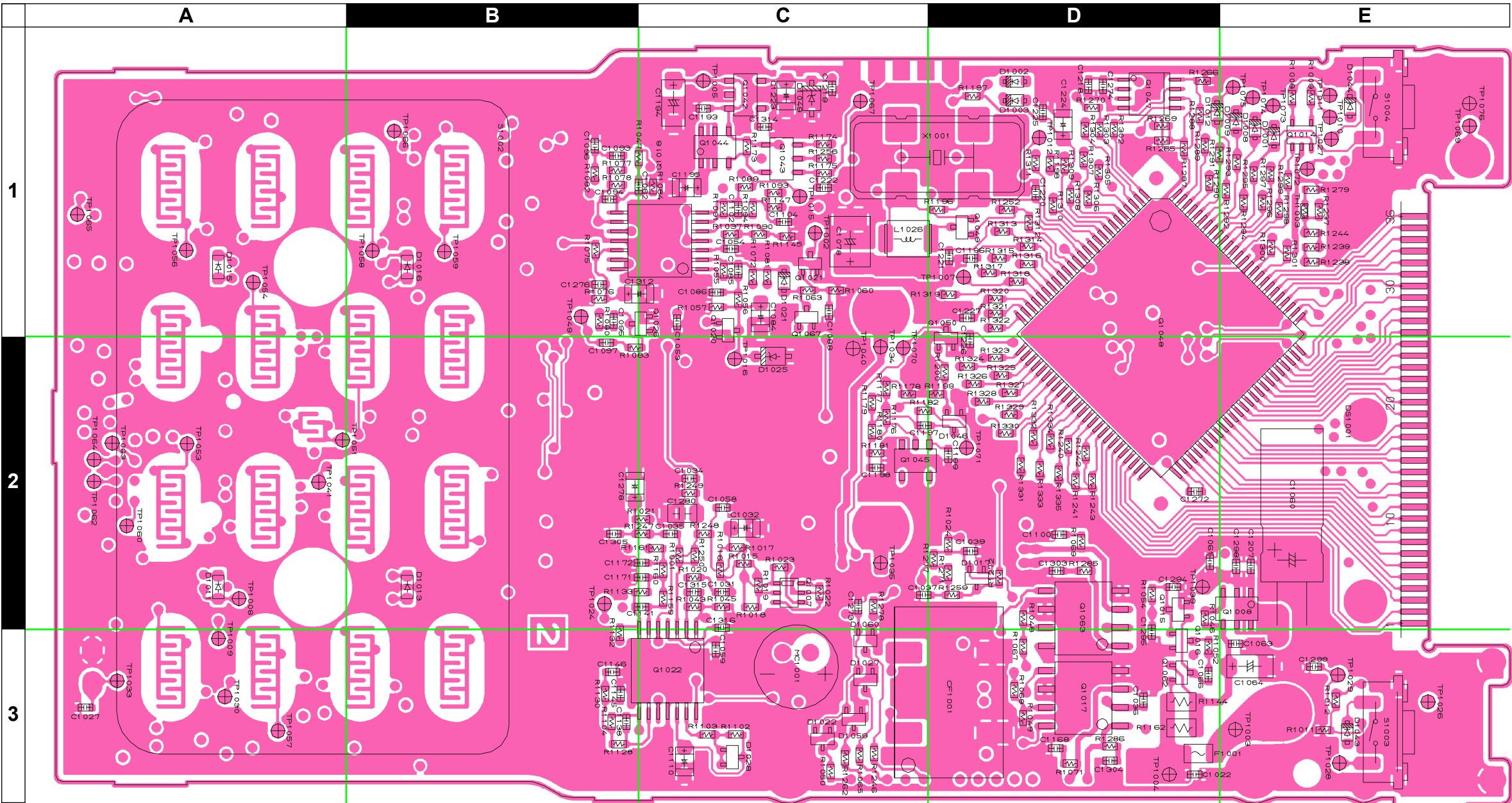


RX (TX)
RX Freq. 470.00 MHz (with ± 3.0 kHz at 1 kHz tone)
Audio Output Level 4.0 Vp-p
AF Dummy Load Impedance 8-ohm

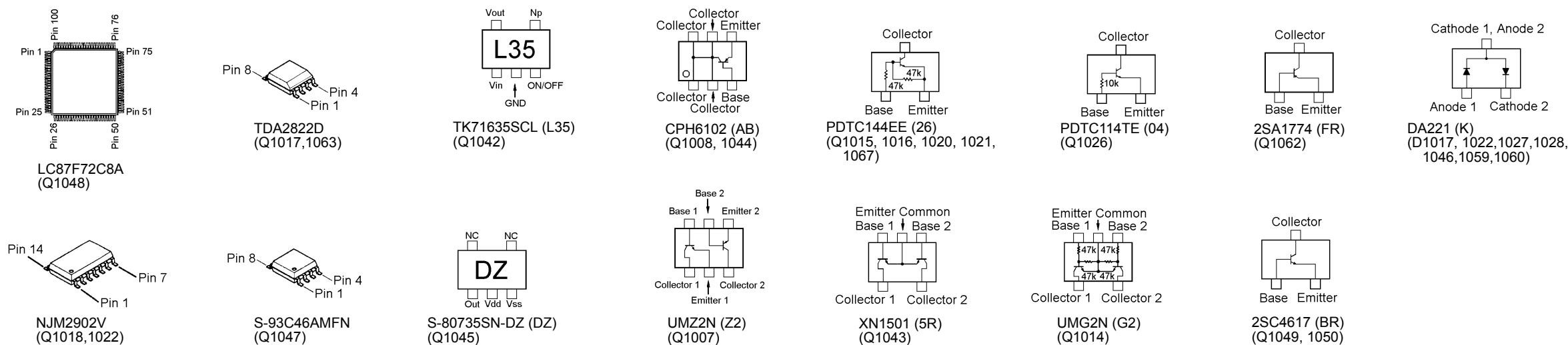
Main Unit (Lot. 1~3)

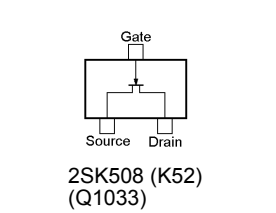
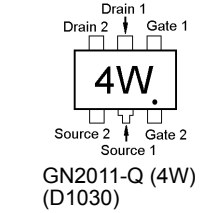
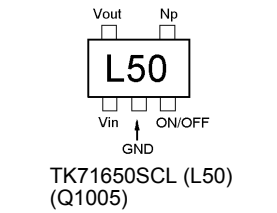
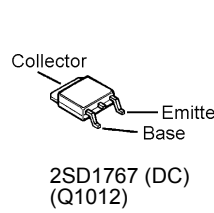
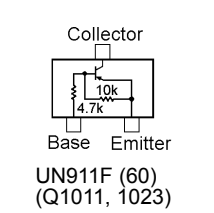
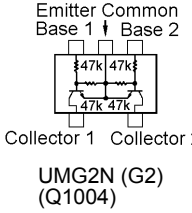
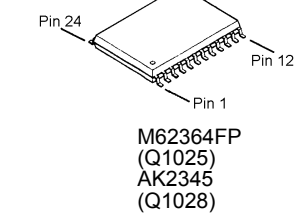
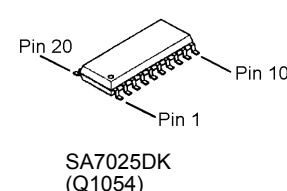
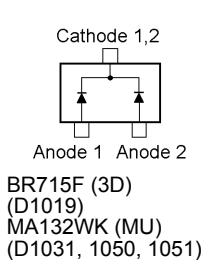
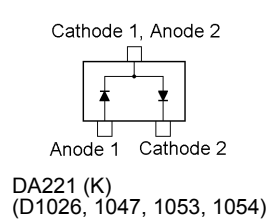
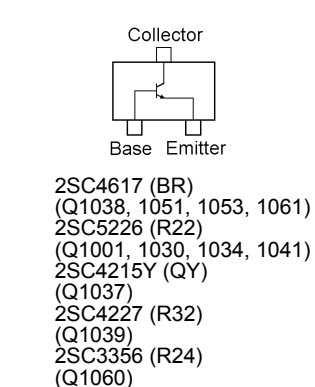
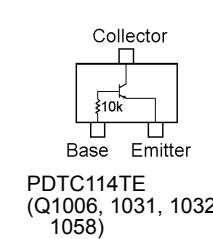
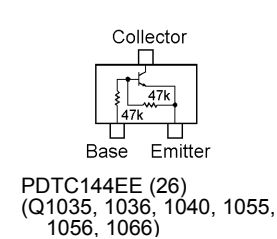
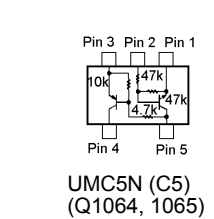
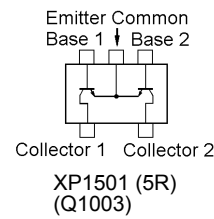
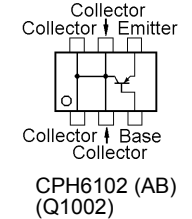
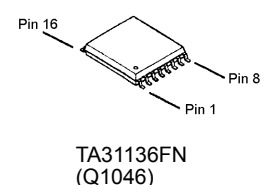
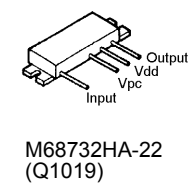
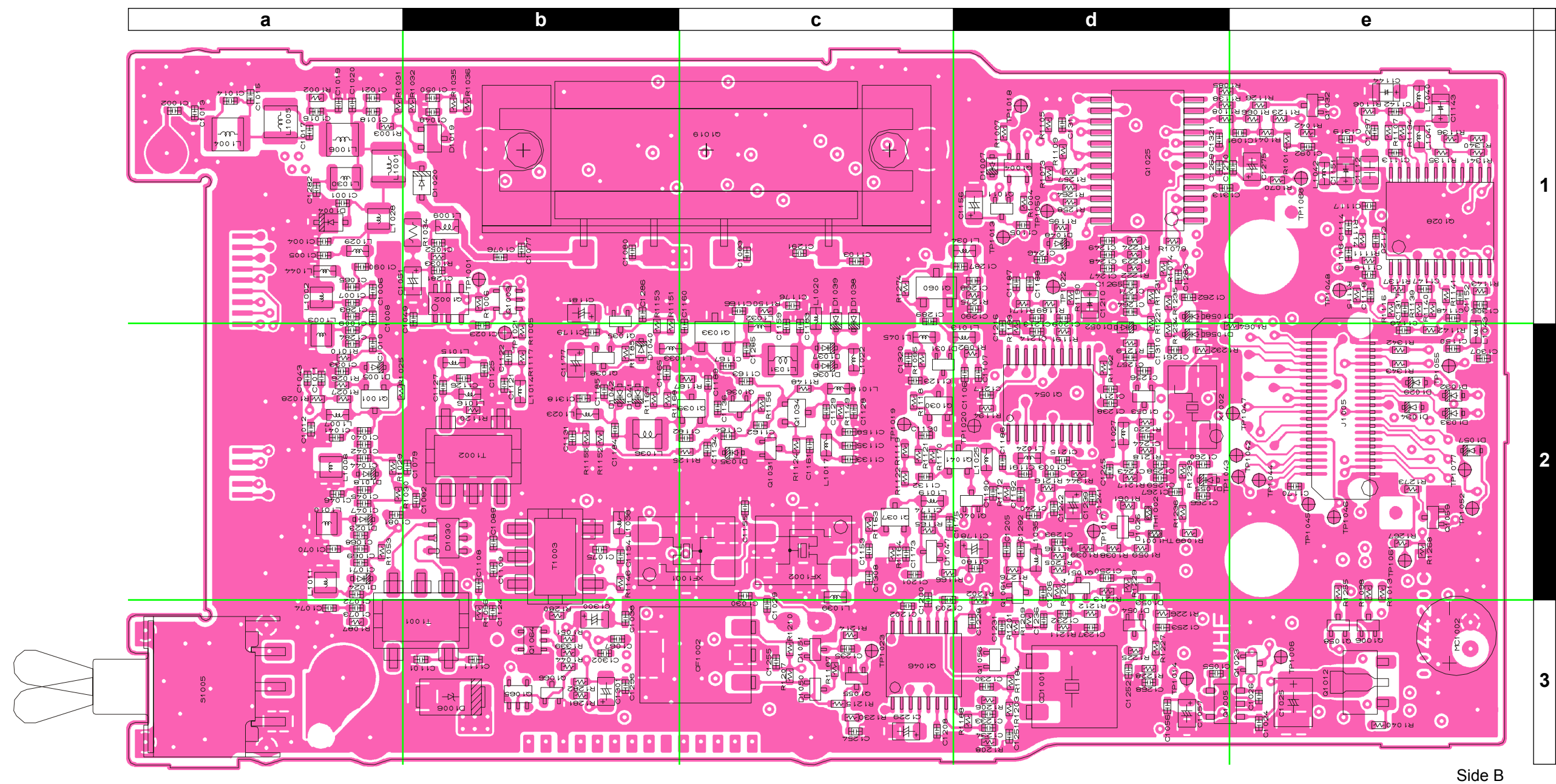
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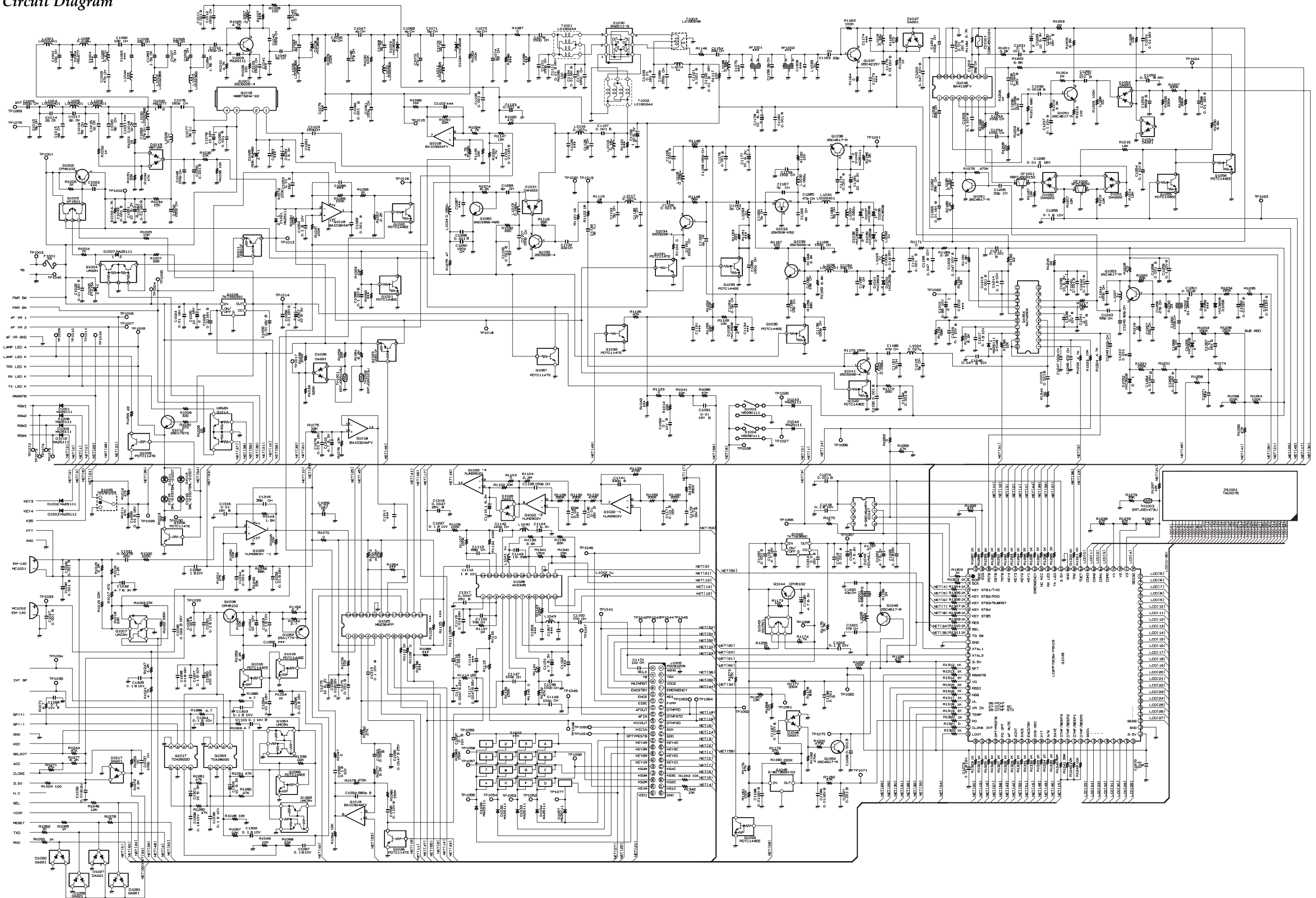
Parts Layout



Side A



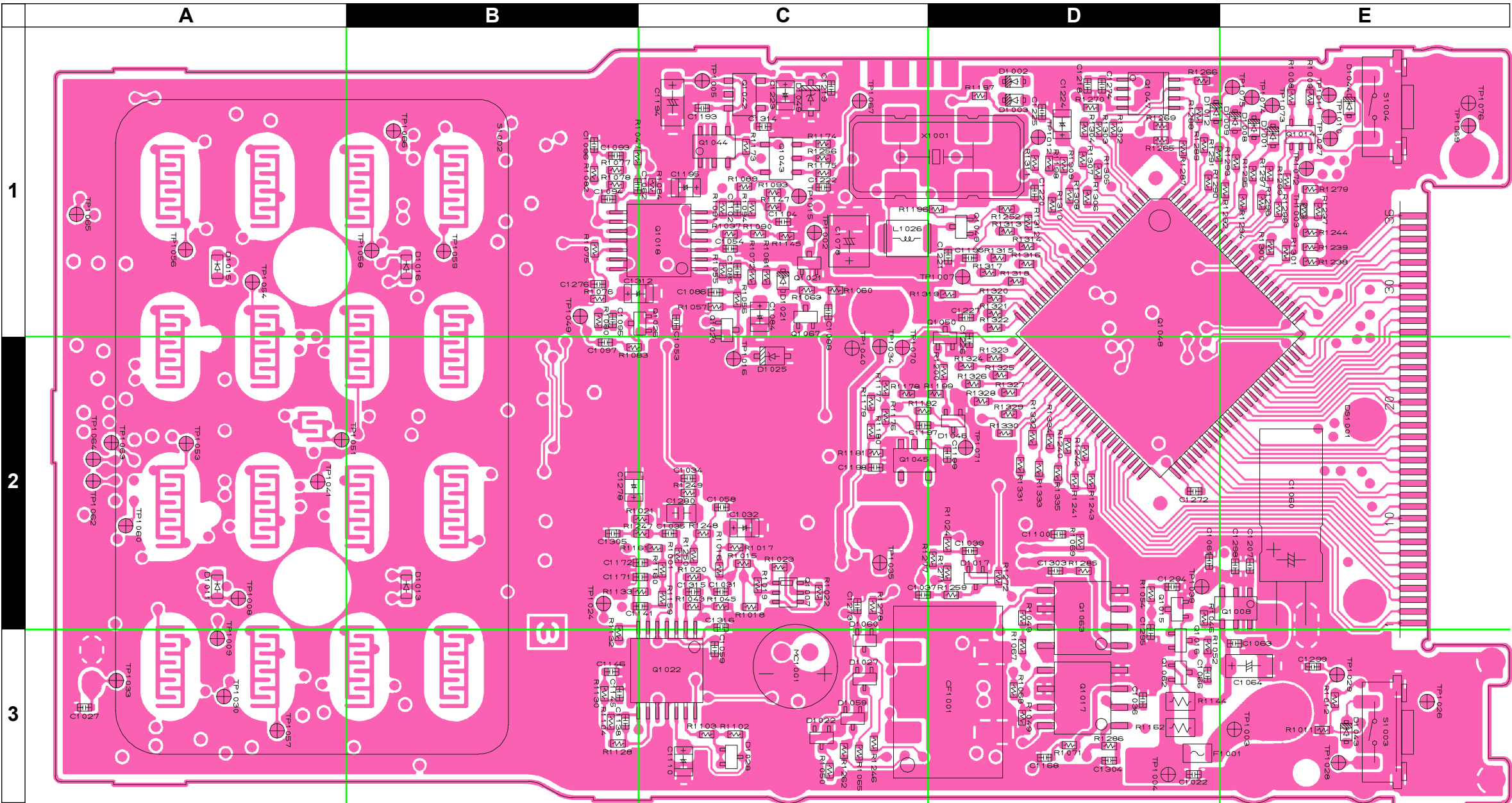




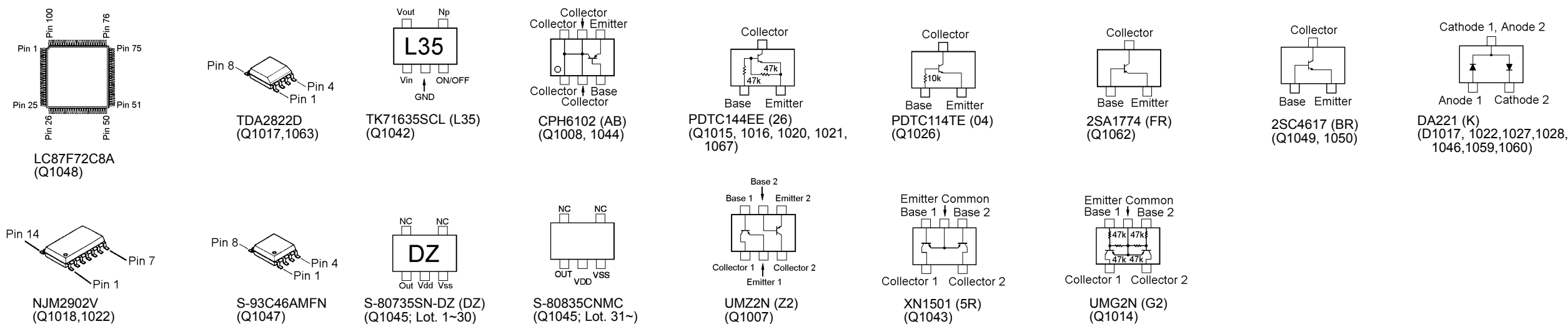
Main Unit (Lot. 4~50)

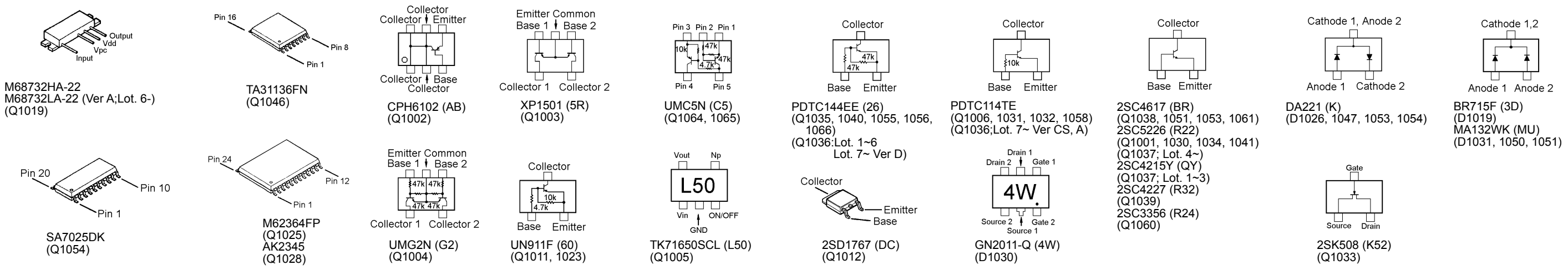
Note:

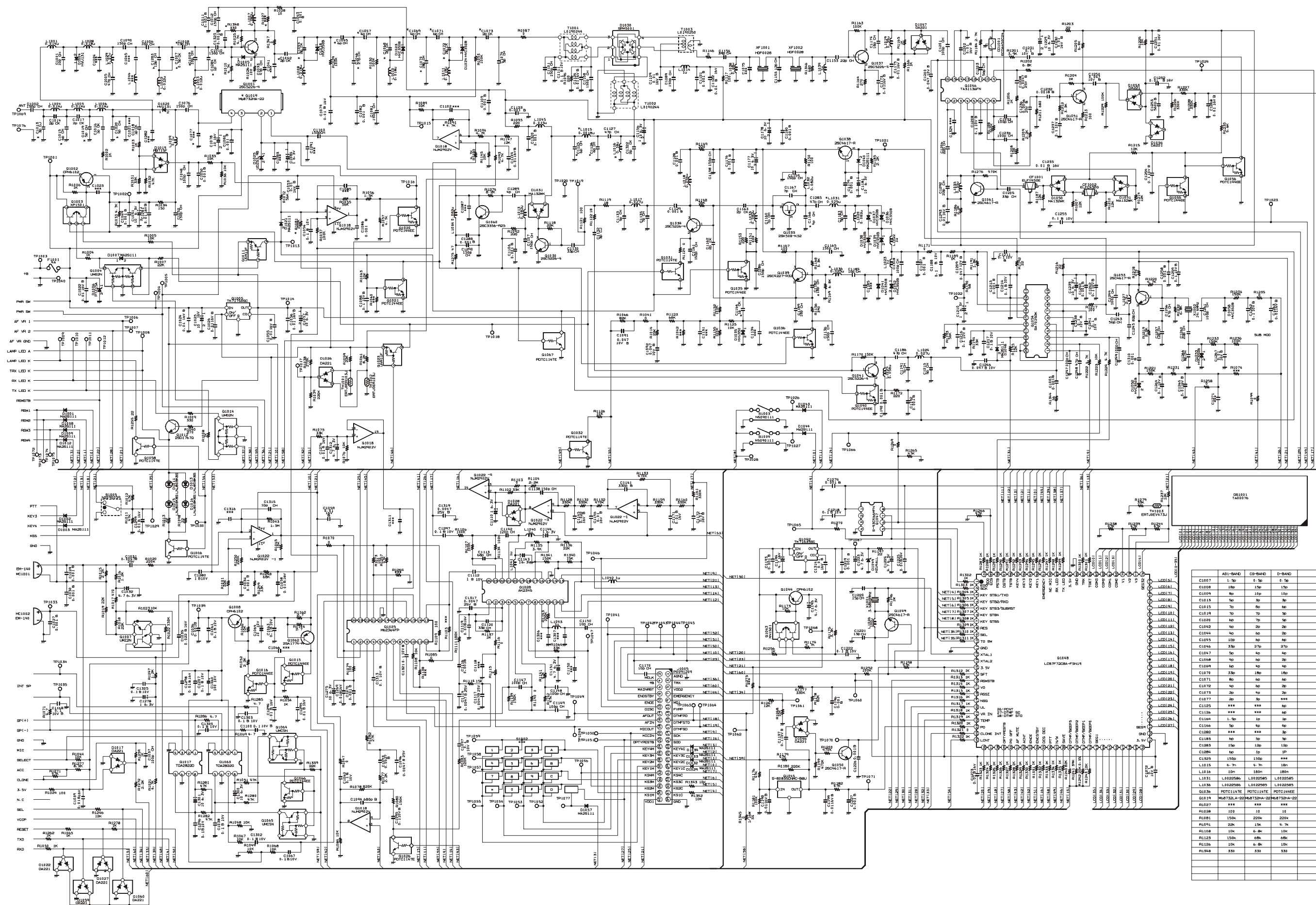
Parts Layout



Side A



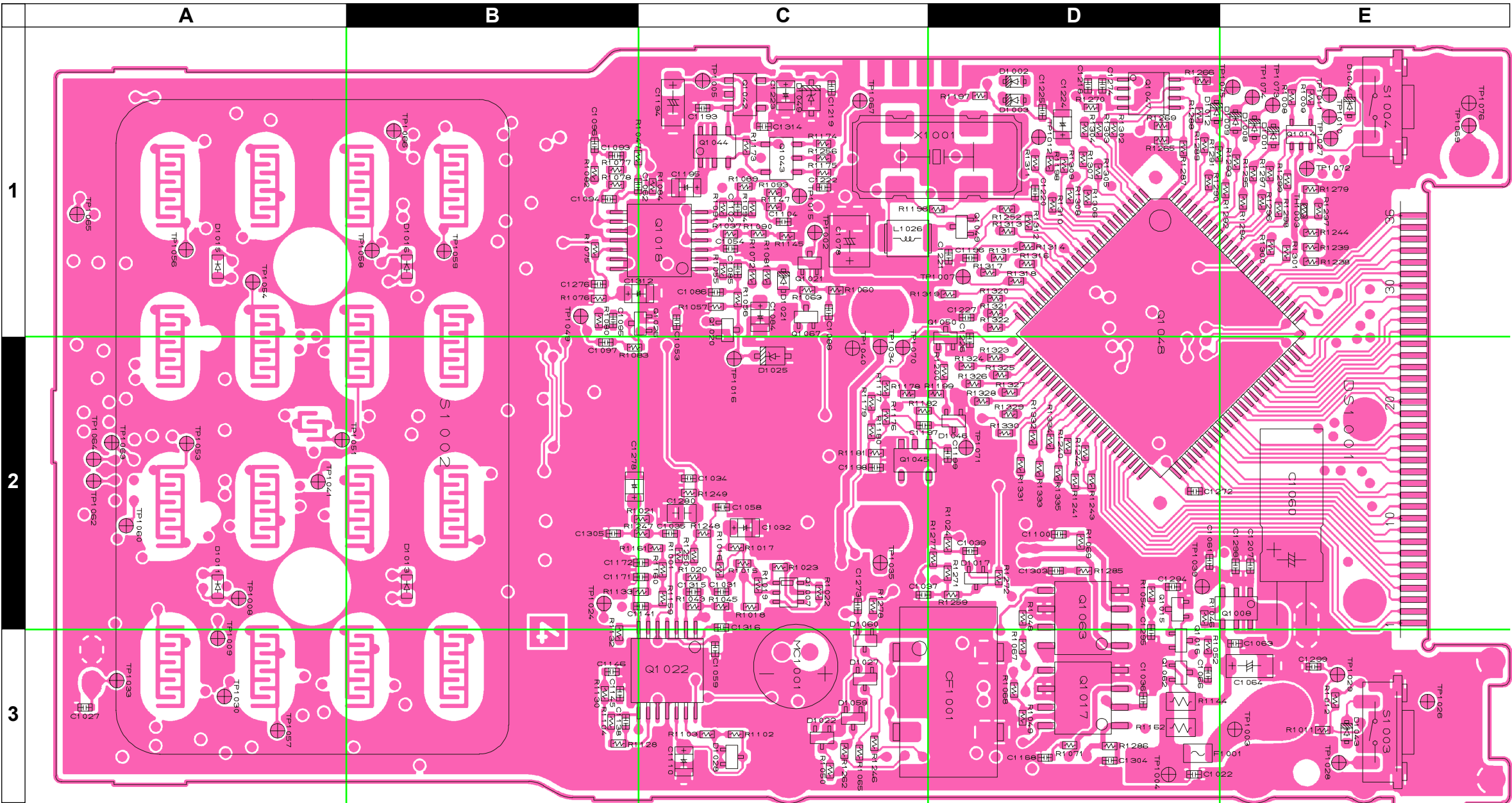




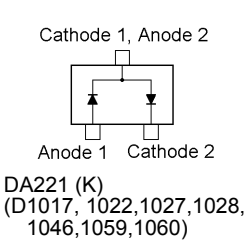
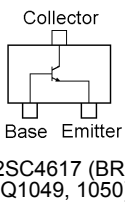
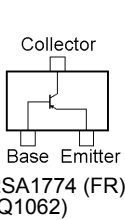
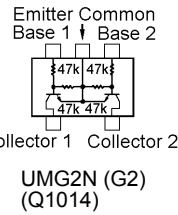
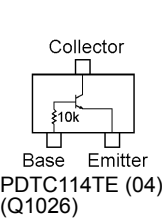
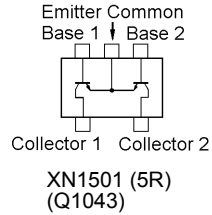
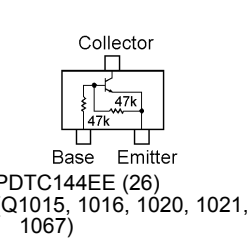
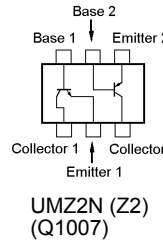
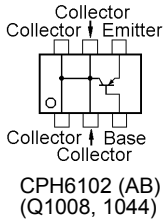
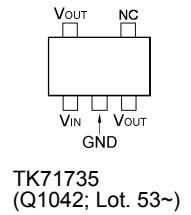
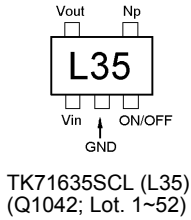
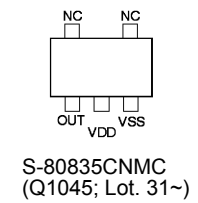
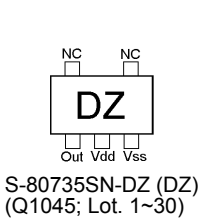
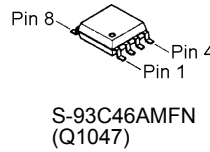
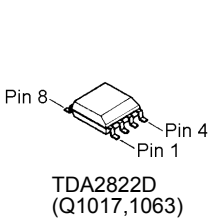
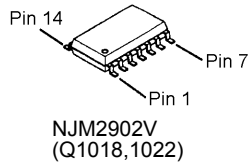
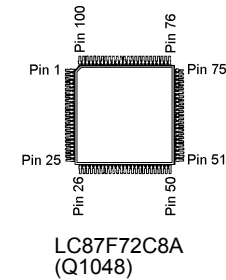
Main Unit (Lot. 51~)

Note:

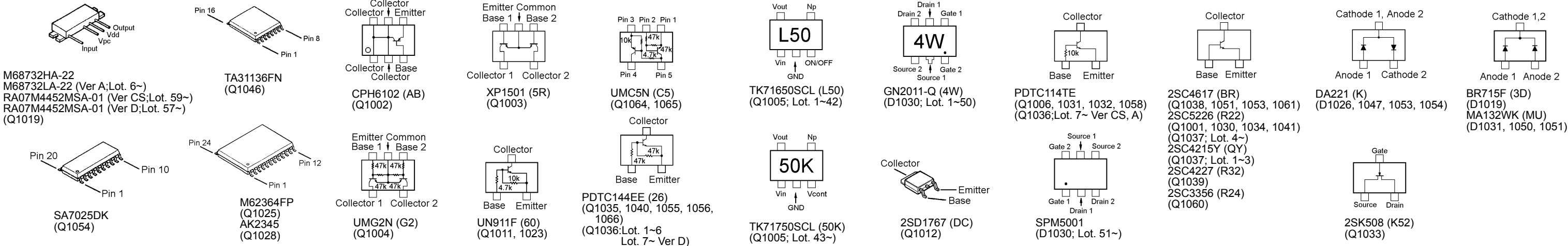
Parts Layout



Side A



Main Unit (Lot. 51~)



Parts List

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
*** MAIN UNIT ***										
PCB with Components (W/O LCD)						CS1672001 VERSION D CS1672002 CS VERSION CS1672003 VERSION A				
Printed Circuit Board						FR004420C		1-		
						FR004420D		4-		
						FR004420E		51-		
C 1001	CHIP CAP.	10pF	50V	CH	GRM36CH100D50PT	K22178212		1-	B	a1
C 1002	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	a1
C 1003	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d2
C 1005	CHIP CAP.	47pF	50V	CH	GRM36CH470J50PT	K22178228		1-	B	a1
C 1006	CHIP CAP.	10pF	50V	CH	GRM36CH100D50PT	K22178212		1-	B	a1
C 1007	CHIP CAP.	0.5pF	50V	CK	GRM36CK0R5B50PT	K22178285		1-5	B	a1
C 1007	CHIP CAP.	0.5pF	50V	CK	GRM36CK0R5B50PT	K22178285	CS VERSION	6-	B	a1
C 1007	CHIP CAP.	1.5pF	50V	CK	GRM36CK1R5C50PT	K22178203	VERSION A	6-	B	a1
C 1007	CHIP CAP.	0.5pF	50V	CK	GRM36CK0R5B50PT	K22178285	VERSION D	6-	B	a1
C 1008	CHIP CAP.	15pF	50V	CH	GRM36CH150J50PT	K22178216		1-5	B	a1
C 1008	CHIP CAP.	15pF	50V	CH	GRM36CH150J50PT	K22178216	CS VERSION	6-	B	a1
C 1008	CHIP CAP.	18pF	50V	CH	GRM36CH180J50PT	K22178218	VERSION A	6-	B	a1
C 1008	CHIP CAP.	15pF	50V	CH	GRM36CH150J50PT	K22178216	VERSION D	6-	B	a1
C 1009	CHIP CAP.	10pF	50V	CH	GRM36CH100D50PT	K22178212		1-5	B	a1
C 1009	CHIP CAP.	10pF	50V	CH	GRM36CH100D50PT	K22178212	CS VERSION	6-	B	a1
C 1009	CHIP CAP.	8pF	50V	CH	GRM36CH080D50PT	K22178210	VERSION A	6-	B	a1
C 1009	CHIP CAP.	10pF	50V	CH	GRM36CH100D50PT	K22178212	VERSION D	6-	B	a1
C 1010	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	a1
C 1011	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	a2
C 1012	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	a2
C 1013	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205		1-5	B	a1
C 1013	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205	CS VERSION	6-58	B	a1
C 1013	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207	VERSION A	6-	B	a1
C 1013	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205	VERSION D	6-56	B	a1
C 1014	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204		1-	B	a1
C 1015	CHIP CAP.	8pF	50V	CH	GRM36CH080D50PT	K22178210		1-	B	a1
C 1015	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208		5	B	a1
C 1015	CHIP CAP.	8pF	50V	CH	GRM36CH080D50PT	K22178210	CS VERSION	6-	B	a1
C 1015	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207	CS VERSION	59-	B	a1
C 1015	CHIP CAP.	7pF	50V	CH	GRM36CH070D50PT	K22178209	VERSION A	6-	B	a1
C 1015	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	VERSION D	6-	B	a1
C 1015	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207	VERSION D	57-	B	a1
C 1016	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202		1-	B	a1
C 1017	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204		1-	B	a1
C 1018	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202		1-56	B	a1
C 1018	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202	CS VERSION	57-	B	a1
C 1018	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202	VERSION A	57-	B	a1
C 1019	CHIP CAP.	7pF	50V	CH	GRM36CH070D50PT	K22178209		1-	B	a1
C 1019	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207		5	B	a1
C 1019	CHIP CAP.	7pF	50V	CH	GRM36CH070D50PT	K22178209	CS VERSION	6-	B	a1
C 1019	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205	CS VERSION	59-	B	a1
C 1019	CHIP CAP.	7pF	50V	CH	GRM36CH070D50PT	K22178209	VERSION A	6-	B	a1
C 1019	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207	VERSION D	6-	B	a1
C 1019	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205	VERSION D	57-	B	a1
C 1020	CHIP CAP.	7pF	50V	CH	GRM36CH070D50PT	K22178209		1-	B	a1
C 1020	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207		5	B	a1
C 1020	CHIP CAP.	7pF	50V	CH	GRM36CH070D50PT	K22178209	CS VERSION	6-	B	a1
C 1020	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	CS VERSION	59-	B	a1
C 1020	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	VERSION A	6-	B	a1
C 1020	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207	VERSION D	6-	B	a1
C 1020	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	VERSION D	57-	B	a1
C 1022	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	D3
C 1024	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	e3

Main Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
C 1025	CHIP TA.CAP.	10uF	16V		TEMSVB21C106M-8R	K78120025		1-	B	e3
C 1026	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	e3
C 1027	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	A3
C 1029	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	c2
C 1030	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	c2
C 1031	CHIP CAP.	0.0047uF	25V	B	GRM36B472K25PT	K22148830		1-	A	C2
C 1032	CHIP TA.CAP.	4.7uF	6.3V		TESVSP0J475M-8R	K78080053		1-	A	C2
C 1033	CHIP CAP.	47pF	50V	CH	GRM36CH470J50PT	K22178228		1-	B	a2
C 1034	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	C2
C 1035	CHIP CAP.	0.022uF	16V	B	GRM36B223K16PT	K22128806		1-	A	C2
C 1036	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	D3
C 1037	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	A	C2
C 1038	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	b2
C 1039	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	D2
C 1042	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206		1-5	B	a2
C 1042	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	CS VERSION	6-	B	a2
C 1042	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204	CS VERSION	33-	B	a2
C 1042	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	VERSION A	6-	B	a2
C 1042	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	VERSION A	24-	B	a2
C 1042	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	VERSION D	6-	B	a2
C 1042	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204	VERSION D	21-	B	a2
C 1043	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	a2
C 1044	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204		1-5	B	a2
C 1044	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	CS VERSION	6-	B	a2
C 1044	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	VERSION A	6-	B	a2
C 1044	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204	VERSION D	6-	B	a2
C 1045	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208		1-5	B	a2
C 1045	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	CS VERSION	6-	B	a2
C 1045	CHIP CAP.	10pF	50V	CH	GRM36CH100D50PT	K22178212	VERSION A	6-	B	a2
C 1045	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	VERSION D	6-	B	a2
C 1046	CHIP CAP.	27pF	50V	CH	GRM36CH270J50PT	K22178222		1-5	B	a2
C 1046	CHIP CAP.	27pF	50V	CH	GRM36CH270J50PT	K22178222	CS VERSION	6-	B	a2
C 1046	CHIP CAP.	33pF	50V	CH	GRM36CH330J50PT	K22178224	VERSION A	6-	B	a2
C 1046	CHIP CAP.	27pF	50V	CH	GRM36CH270J50PT	K22178222	VERSION D	6-	B	a2
C 1047	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206		1-5	B	a2
C 1047	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	CS VERSION	6-	B	a2
C 1047	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207	VERSION A	6-	B	a2
C 1047	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	VERSION D	6-	B	a2
C 1048	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	b1
C 1049	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	b1
C 1050	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	b1
C 1051	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	B	b1
C 1051	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18-	B	b1
C 1051	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		20-	B	b1
C 1051	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	b1
C 1052	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	b1
C 1053	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	C1
C 1054	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	C1
C 1055	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d3
C 1056	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d3
C 1057	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	B	d3
C 1057	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18	B	d3
C 1057	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		19	B	d3
C 1057	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		20-	B	d3
C 1057	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	d3
C 1058	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	C2
C 1059	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	C2
C 1060	AL.ELECTRO.CAP.	100uF	10V		UVR1A101MDA6 100UF	K40109028		1-	A	E2
C 1061	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	D2
C 1062	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	C1

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
C 1063	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	E2
C 1063	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		59-	A	E2
C 1064	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	E3
C 1064	CHIP TA.CAP.	6.8uF	16V		TEMSVA1C685M-8R	K78120056		59-	A	E3
C 1067	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	b3
C 1068	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204		1-5	B	a2
C 1068	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	CS VERSION	6-	B	a2
C 1068	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	VERSION A	6-	B	a2
C 1068	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204	VERSION D	6-	B	a2
C 1069	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206		1-5	B	a2
C 1069	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	CS VERSION	6-	B	a2
C 1069	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	VERSION A	6-	B	a2
C 1069	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	VERSION D	6-	B	a2
C 1070	CHIP CAP.	18pF	50V	CH	GRM36CH180J50PT	K22178218		1-5	B	a2
C 1070	CHIP CAP.	18pF	50V	CH	GRM36CH180J50PT	K22178218	CS VERSION	6-	B	a2
C 1070	CHIP CAP.	33pF	50V	CH	GRM36CH330J50PT	K22178224	VERSION A	6-	B	a2
C 1070	CHIP CAP.	18pF	50V	CH	GRM36CH180J50PT	K22178218	VERSION D	6-	B	a2
C 1071	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208		1-5	B	a2
C 1071	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	CS VERSION	6-	B	a2
C 1071	CHIP CAP.	8pF	50V	CH	GRM36CH080D50PT	K22178210	VERSION A	6-	B	a2
C 1071	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	VERSION D	6-	B	a2
C 1072	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204		1-5	B	a2
C 1072	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	CS VERSION	6-	B	a2
C 1072	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	VERSION A	6-	B	a2
C 1072	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204	VERSION D	6-	B	a2
C 1073	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206		1-20	B	a2
C 1073	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	CS VERSION	21-	B	a2
C 1073	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204	VERSION A	21-	B	a2
C 1073	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204	VERSION D	21-	B	a2
C 1074	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207		1-	B	a2
C 1076	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	b1
C 1077	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205		1-1	B	b1
C 1077	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205		5	B	b1
C 1077	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205	CS VERSION	6-	B	b1
C 1077	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204	CS VERSION	59-	B	b1
C 1077	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204	VERSION A	6-	B	b1
C 1077	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205	VERSION D	6-20	B	b1
C 1077	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202	VERSION D	57-	B	b1
C 1078	CHIP TA.CAP.	10uF	16V		TEMSVB21C106M-8R	K78120025		1-	A	C1
C 1079	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	b2
C 1080	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	b1
C 1081	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	a2
C 1082	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	b2
C 1084	CHIP TA.CAP.	1uF	6.3V		TMCP0J105MTR	K78080071		1-	A	C1
C 1086	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	C1
C 1088	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	C1
C 1089	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	b2
C 1090	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	a1
C 1091	CHIP CAP.	0.047uF	10V	B	GRM36B473K10PT	K22108801		1-	B	e1
C 1092	CHIP CAP.	0.047uF	10V	B	GRM36B473K10PT	K22108801		1-	B	e1
C 1093	CHIP CAP.	0.0027uF	50V	B	GRM36B272K50PT	K22178814		1-	A	B1
C 1094	CHIP CAP.	680pF	50V	B	GRM36B681K50PT	K22178807		1-	A	B1
C 1095	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	B1
C 1096	CHIP CAP.	0.0047uF	25V	B	GRM36B472K25PT	K22148830		1-	A	B1
C 1097	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	B1
C 1100	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	D2
C 1101	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	b3
C 1103	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	c1
C 1104	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	C1
C 1105	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d1

Main Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
C 1106	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d2
C 1107	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	d2
C 1108	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	b2
C 1109	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	b2
C 1110	CHIP TA.CAP.	1uF	6.3V		TMCP0J105MTR	K78080071		1-	A	C3
C 1111	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	b3
C 1112	CHIP CAP.	1uF	10V	B	GRM40B105K10PT	K22100802		1-	B	e1
C 1113	CHIP CAP.	68pF	50V	CH	GRM36CH680J50PT	K22178232		1-	B	e1
C 1114	CHIP CAP.	0.0047uF	25V	B	GRM36B472K25PT	K22148830		1-	B	e1
C 1116	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	e1
C 1117	CHIP CAP.	0.0047uF	25V	B	GRM36B472K25PT	K22148830		1-	B	e1
C 1119	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	e1
C 1120	CHIP CAP.	33pF	50V	CH	GRM36CH330J50PT	K22178224		1-	B	e1
C 1121	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	b2
C 1122	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	b2
C 1123	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	c2
C 1124	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	b2
C 1125	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	VERSION D	21-	B	b2
C 1126	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	VERSION D	21-	B	b2
C 1127	CHIP CAP.	47pF	50V	CH	GRM36CH470J50PT	K22178228		1-	B	b2
C 1128	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	c2
C 1129	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	c2
C 1130	CHIP CAP.	33pF	50V	CH	GRM36CH330J50PT	K22178224		1-	B	c2
C 1132	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205		1-	B	c2
C 1133	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207		1-	B	c2
C 1135	CHIP CAP.	7pF	50V	CH	GRM36CH070D50PT	K22178209		1-	B	c2
C 1136	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	c2
C 1138	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	A	B3
C 1141	CHIP CAP.	330pF	50V	B	GRM36B331K50PT	K22178803		1-	A	C2
C 1142	CHIP CAP.	120pF	50V	CH	GRM36CH121J50PT	K22178238		1-	B	e1
C 1143	CHIP TA.CAP.	1uF	6.3V		TMCP0J105MTR	K78080071		1-	B	e1
C 1144	CHIP TA.CAP.	1uF	6.3V		TMCP0J105MTR	K78080071		1-	B	e1
C 1145	CHIP CAP.	0.022uF	16V	B	GRM36B223K16PT	K22128806		1-	A	B3
C 1146	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	B3
C 1147	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	e1
C 1148	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	e1
C 1149	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	e1
C 1150	CHIP CAP.	10pF	50V	CH	GRM36CH100D50PT	K22178212		1-	B	e2
C 1151	CHIP TA.CAP.	4.7uF	6.3V		TESVSP0J475M-8R	K78080053		1-	B	e1
C 1153	CHIP CAP.	33pF	50V	CH	GRM36CH330J50PT	K22178224		1	B	c2
C 1153	CHIP CAP.	22pF	50V	CH	GRM36CH220J50PT	K22178220		2-	B	c2
C 1154	CHIP CAP.	27pF	50V	CH	GRM36CH270J50PT	K22178222		1	B	b2
C 1154	CHIP CAP.	39pF	50V	CH	GRM36CH390J50PT	K22178226		2-	B	b2
C 1155	CHIP CAP.	9pF	50V	CH	GRM36CH090D50PT	K22178211		1	B	c2
C 1155	CHIP CAP.	12pF	50V	CH	GRM36CH120J50PT	K22178214		2-	B	c2
C 1156	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	B	d1
C 1156	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18-	B	d1
C 1156	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		20-	B	d1
C 1156	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	d1
C 1158	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	c2
C 1159	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	c1
C 1160	CHIP CAP.	7pF	50V	CH	GRM36CH070D50PT	K22178209		1-	B	c1
C 1161	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	c2
C 1162	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204		1-	B	c2
C 1163	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204		1-	B	c2
C 1164	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202		1-5	B	c2
C 1164	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202	CS VERSION	6-	B	c2
C 1164	CHIP CAP.	1.5pF	50V	CK	GRM36CK1R5C50PT	K22178203	VERSION A	6-	B	c2
C 1164	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202	VERSION D	6-	B	c2
C 1165	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	b2

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
C 1166	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206	CS VERSION VERSION A VERSION D	1-5	B	c1
C 1166	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206		6-	B	c1
C 1166	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207		6-	B	c1
C 1166	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206		6-	B	c1
C 1167	CHIP CAP.	7pF	50V	CH	GRM36CH070D50PT	K22178209		1-	B	c2
C 1168	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	D3
C 1170	CHIP CAP.	10pF	50V	CH	GRM36CH100D50PT	K22178212		1-	B	e2
C 1171	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	C2
C 1172	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	C2
C 1173	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	c2
C 1174	CHIP CAP.	18pF	50V	CH	GRM36CH180J50PT	K22178218		4-	B	c2
C 1175	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	c2
C 1176	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	c1
C 1177	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	B	b2
C 1177	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18-	B	b2
C 1177	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		20-	B	b2
C 1177	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	b2
C 1178	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079	CS VERSION VERSION A VERSION D	1-	B	d2
C 1178	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18-	B	d2
C 1178	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		20-	B	d2
C 1178	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	d2
C 1179	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	b1
C 1180	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d2
C 1181	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	B	b1
C 1181	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18-	B	b1
C 1181	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		20-	B	b1
C 1181	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	b1
C 1182	CHIP CAP.	18pF	50V	CH	GRM36CH180J50PT	K22178218		1-	B	c2
C 1183	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207		1-6	B	c1
C 1183	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207		7-	B	c1
C 1183	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208		7-	B	c1
C 1183	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207		7-	B	c1
C 1184	CHIP CAP.	10pF	50V	CH	GRM36CH100D50PT	K22178212	CS VERSION VERSION A VERSION D	1-	B	b2
C 1186	CHIP CAP.	47pF	50V	CH	GRM36CH470J50PT	K22178228		1-	B	d2
C 1187	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d1
C 1188	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d1
C 1189	CHIP CAP.	18pF	50V	CH	GRM36CH180J50PT	K22178218		1-	B	c2
C 1190	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d2
C 1191	CHIP CAP.	7pF	50V	CH	GRM36CH070D50PT	K22178209		1-	B	d2
C 1192	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d2
C 1193	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	C1
C 1194	CHIP TA.CAP.	4.7uF	16V		TEMSVA1C475M-8R	K78120031		1-	A	C1
C 1195	CHIP TA.CAP.	4.7uF	6.3V		TESVSP0J475M-8R	K78080053		1-	A	C1
C 1196	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	D1
C 1197	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	C2
C 1198	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	C2
C 1199	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	D2
C 1200	CHIP CAP.	0.047uF	10V	B	GRM36B473K10PT	K22108801	CS VERSION VERSION A VERSION D	1-	B	c2
C 1201	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	c2
C 1202	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	c2
C 1203	CHIP CAP.	56pF	50V	CH	GRM36CH560J50PT	K22178230		1-	B	c2
C 1203	CHIP CAP.	82pF	50V	CH	GRM36CH820J50PT	K22178234		55-	B	c2
C 1205	CHIP CAP.	33pF	50V	CH	GRM36CH330J50PT	K22178224		1-	B	d2
C 1206	CHIP CAP.	22pF	50V	CH	GRM36CH220J50PT	K22178220		1-	B	d2
C 1207	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	E2
C 1208	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	c3
C 1209	CHIP CAP.	0.047uF	10V	B	GRM36B473K10PT	K22108801		1-	B	d1
C 1210	CHIP TA.CAP.	1uF	6.3V		TMCP0J105MTR	K78080071		1-	B	d1
C 1211	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d2
C 1213	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d1

Main Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
C 1214	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d1
C 1215	CHIP CAP.	5pF	50V	CH	GRM36CH050C50PT	K22178207		1-	B	d2
C 1216	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d1
C 1217	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d2
C 1218	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	D1
C 1219	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	C1
C 1220	CHIP CAP.	15pF	50V	CH	GRM36CH150J50PT	K22178216		1-	A	D1
C 1221	CHIP CAP.	15pF	50V	CH	GRM36CH150J50PT	K22178216		1-	A	D1
C 1222	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	C1
C 1223	CHIP TA.CAP.	4.7uF	6.3V		TESVSP0J475M-8R	K78080053		1-	A	C1
C 1224	CHIP TA.CAP.	4.7uF	6.3V		TESVSP0J475M-8R	K78080053		1-	A	D1
C 1225	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	D1
C 1226	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	D1
C 1227	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	D1
C 1228	CHIP CAP.	0.0047uF	25V	B	GRM36B472K25PT	K22148830		1-	B	d2
C 1229	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	B	c3
C 1229	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18	B	c3
C 1229	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		19-	B	c3
C 1229	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	c3
C 1230	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d3
C 1231	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d3
C 1232	CHIP CAP.	0.0018uF	50V	B	GRM36B182K50PT	K22178812		1-	B	d2
C 1233	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	d3
C 1234	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	d3
C 1235	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	c3
C 1236	CHIP CAP.	0.0056uF	25V	B	GRM36B562K25PT	K22148802		1-	B	d2
C 1237	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d3
C 1238	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d2
C 1239	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	B	d2
C 1239	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18-	B	d2
C 1239	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		20-	B	d2
C 1239	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	d2
C 1240	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d2
C 1241	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d2
C 1242	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d2
C 1243	CHIP CAP.	56pF	50V	CH	GRM36CH560J50PT	K22178230		1-	B	d2
C 1244	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	d2
C 1245	CHIP CAP.	82pF	50V	CH	GRM36CH820J50PT	K22178234		1-	B	d2
C 1246	CHIP CAP.	0.047uF	10V	B	GRM36B473K10PT	K22108801		1-	B	d1
C 1247	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	d1
C 1248	CHIP CAP.	47pF	50V	CH	GRM36CH470J50PT	K22178228		1-	B	d1
C 1249	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	d1
C 1250	CHIP CAP.	0.047uF	10V	B	GRM36B473K10PT	K22108801		1-	B	d2
C 1251	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d3
C 1252	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d3
C 1253	CHIP CAP.	560pF	50V	B	GRM36B561K50PT	K22178806		1-	B	d3
C 1254	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	c3
C 1255	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	c3
C 1256	CHIP CAP.	47pF	50V	CH	GRM36CH470J50PT	K22178228		1-	B	d2
C 1257	CHIP CAP.	12pF	50V	CH	GRM36CH120J50PT	K22178214		1	B	d2
C 1257	CHIP CAP.	12pF	50V	CH	GRM36CH120J50PT	K22178214		2-	B	d2
C 1258	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d2
C 1259	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d2
C 1260	CHIP CAP.	27pF	50V	CH	GRM36CH270J50PT	K22178222		1	B	d2
C 1260	CHIP CAP.	22pF	50V	CH	GRM36CH220J50PT	K22178220		2-	B	d2
C 1261	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	d2
C 1262	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d1
C 1263	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d1
C 1264	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d1
C 1265	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d1

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
C 1266	CHIP CAP.	8pF	50V	CH	GRM36CH080D50PT	K22178210		1-	B	d2
C 1267	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d2
C 1268	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d3
C 1269	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d1
C 1270	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	e1
C 1272	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	D2
C 1273	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	C2
C 1274	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	D1
C 1275	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	B	e1
C 1275	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18-	B	e1
C 1275	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		20-	B	e1
C 1275	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	e1
C 1276	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	B1
C 1278	CHIP TA.CAP.	1uF	6.3V		TMCP0J105MTR	K78080071		1-	A	B2
C 1280	CHIP CAP.	1uF	10V	B	GRM40B105K10PT	K22100802		1-	A	C2
C 1281	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	b1
C 1282	CHIP CAP.	3pF	50V	CJ	GRM36CJ030C50PT	K22178205	VERSION D	21-	B	a1
C 1283	CHIP CAP.	12pF	50V	CH	GRM36CH120J50PT	K22178214		1-5	B	a1
C 1283	CHIP CAP.	12pF	50V	CH	GRM36CH120J50PT	K22178214	CS VERSION	6-	B	a1
C 1283	CHIP CAP.	15pF	50V	CH	GRM36CH150J50PT	K22178216	VERSION A	6-	B	a1
C 1283	CHIP CAP.	12pF	50V	CH	GRM36CH120J50PT	K22178214	VERSION D	6-	B	a1
C 1284	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202		1-5	B	a1
C 1284	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202	CS VERSION	6-	B	a1
C 1284	CHIP CAP.	6pF	50V	CH	GRM36CH060D50PT	K22178208	VERSION A	6-	B	a1
C 1284	CHIP CAP.	1pF	50V	CK	GRM36CK010C50PT	K22178202	VERSION D	6-20	B	a1
C 1284	CHIP CAP.	1pF	50V	CK	GRM36CK010B50PT	K22178287	VERSION D	36-	B	a1
C 1285	CHIP CAP.	47pF	50V	CH	GRM36CH470J50PT	K22178228		1-	B	c2
C 1286	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	b1
C 1288	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d1
C 1289	CHIP CAP.	4pF	50V	CH	GRM36CH040C50PT	K22178206		1-	B	c1
C 1290	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240		1-	B	d1
C 1292	CHIP CAP.	39pF	50V	CH	GRM36CH390J50PT	K22178226		1-	B	d2
C 1292	CHIP CAP.	22pF	50V	CH	GRM36CH220J50PT	K22178220		21-	B	d2
C 1293	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	B	d2
C 1294	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	D2
C 1295	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	D2
C 1296	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	b3
C 1297	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	e1
C 1298	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	E2
C 1299	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	E3
C 1300	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	B	b2
C 1300	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18-	B	b2
C 1300	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		20-	B	b2
C 1300	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	b2
C 1301	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	B	b3
C 1301	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		18-	B	b3
C 1301	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		20-	B	b3
C 1301	CHIP TA.CAP.	10uF	6.3V		SYL-0J106M-RP	K78080083		61-	B	b3
C 1302	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	b3
C 1303	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	D2
C 1304	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	D3
C 1305	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	B2
C 1310	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	d2
C 1312	CHIP TA.CAP.	4.7uF	6.3V		TESVSP0J475M-8R	K78080053		1-	A	C1
C 1313	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d1
C 1314	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	C1
C 1315	CHIP CAP.	10pF	50V	CH	GRM36CH100D50PT	K22178212		1-	A	C2
C 1317	CHIP CAP.	0.0047uF	25V	B	GRM36B472K25PT	K22148830		1-	B	e1
C 1318	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	B	b2
C 1319	CHIP CAP.	0.0047uF	25V	B	GRM36B472K25PT	K22148830		1-	B	e1

Main Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
C 1320	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	B	c2
C 1321	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	B	d1
C 1322	CHIP CAP.	2pF	50V	CK	GRM36CK020C50PT	K22178204		1-	B	b2
C 1323	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-	B	a2
C 1323	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		4-	B	a2
C 1324	CHIP CAP.	33pF	50V	CH	GRM39CH330J50PT	K22174223		3	B	c3
C 1324	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		4-20	B	c3
C 1325	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240	CS VERSION	7-		
C 1325	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240	CS VERSION	51-		
C 1325	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240	VERSION A	7-		
C 1325	CHIP CAP.	150pF	50V	CH	GRM36CH151J50PT	K22178240	VERSION A	51-		
CD1001	CERAMIC DISC				CDBC450KCAY24-R0	H7901340		1-	B	d3
CD1001	CERAMIC DISC				ECDA450C24	H7901460		51-	B	d3
CF1001	CERAMIC FILTER				PBFC450R15DR	H3900527		1-	A	D3
CF1001	CERAMIC FILTER				ELFY450E	H3900549		40-	A	D3
CF1002	CERAMIC FILTER				SFPCA450KG1A-R1	H3900518		1-	B	c3
CF1002	CERAMIC FILTER				ELFC450G	H3900538		51-	B	c3
D 1001	DIODE				MA2S111-(TX)	G2070614		1-	A	E1
D 1002	DIODE				MA2S111-(TX)	G2070614		1-	A	D1
D 1003	DIODE				MA2S111-(TX)	G2070614		1-	A	D1
D 1004	DIODE				HVU131TRF	G2070462		1-	B	a1
D 1005	DIODE				MA2S111-(TX)	G2070614		1-	B	a2
D 1006	DIODE				PTZ TE25 15A	G2070692		1-	B	b3
D 1007	DIODE				MA2S111-(TX)	G2070614		1-	B	d1
D 1008	DIODE				MA2S111-(TX)	G2070614		1-	A	E1
D 1009	DIODE				MA2S111-(TX)	G2070614		1-	A	E1
D 1011	LED				LNJ808K8SRA	G2070790		1-3	A	A2
D 1011	LED				LNJ808K8SRA	G2070790	16KEY VERTEX	4-5	A	A2
D 1011	LED				LNJ808K8SRA	G2070790	W/O KEY VERTEX	4-5	A	A2
D 1011	LED				LNJ808K8SRA	G2070790		6-	A	A2
D 1012	DIODE				MA2S111-(TX)	G2070614		1-	A	D1
D 1013	LED				LNJ808K8SRA	G2070790		1-3	A	B2
D 1013	LED				LNJ808K8SRA	G2070790	16KEY VERTEX	4-5	A	B2
D 1013	LED				LNJ808K8SRA	G2070790	W/O KEY VERTEX	4-5	A	B2
D 1013	LED				LNJ808K8SRA	G2070790		6-	A	B2
D 1015	LED				LNJ808K8SRA	G2070790		1-3	A	A1
D 1015	LED				LNJ808K8SRA	G2070790	16KEY VERTEX	4-5	A	A1
D 1015	LED				LNJ808K8SRA	G2070790	W/O KEY VERTEX	4-5	A	A1
D 1015	LED				LNJ808K8SRA	G2070790		6-	A	A1
D 1016	LED				LNJ808K8SRA	G2070790		1-3	A	B1
D 1016	LED				LNJ808K8SRA	G2070790	16KEY VERTEX	4-5	A	B1
D 1016	LED				LNJ808K8SRA	G2070790	W/O KEY VERTEX	4-5	A	B1
D 1016	LED				LNJ808K8SRA	G2070790		6-	A	B1
D 1017	DIODE				DA221 TL	G2070178		1-	A	D2
D 1018	DIODE				HVC350B-TRF	G2070596		1-	B	a2
D 1019	DIODE				RB715F T106	G2070752		1-	B	b1
D 1020	DIODE				HVU131TRF	G2070462		1-	B	b1
D 1021	DIODE				MA2S111-(TX)	G2070614		1-	A	C1
D 1022	DIODE				DA221 TL	G2070178		1-	A	C3
D 1023	DIODE				HVC350B-TRF	G2070596		1-	B	a2
D 1024	DIODE				HVC350B-TRF	G2070596		1-	B	a2
D 1025	DIODE				UDZ TE-17 3.9B	G2070576		1-	A	C1
D 1025	DIODE				UDZS TE-17 3.9B	G2070906		31-	A	C1
D 1026	DIODE				DA221 TL	G2070178		1-	B	d2
D 1027	DIODE				DA221 TL	G2070178		1-	A	C3
D 1028	DIODE				DA221 TL	G2070178		1-	A	C3
D 1029	DIODE				MA2S111-(TX)	G2070614		1-	B	e2
D 1030	IC				GN2011-Q(TX)	G1092183		1-	B	b2
D 1030	IC				SPM5001	G1093686		51-	B	b2
D 1031	DIODE				MA132WK-(TX)	G2070776		1-	B	c2

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
D 1032	DIODE				MA2S111-(TX)	G2070614		1-	B	e2
D 1033	DIODE				MA2S111-(TX)	G2070614		1-	B	e2
D 1034	DIODE				MA2S111-(TX)	G2070614		1-	B	e2
D 1035	DIODE				HVU350TRF	G2070380		1-	B	c2
D 1036	DIODE				HVC350B-TRF	G2070596		1-	B	c2
D 1037	DIODE				HVC350B-TRF	G2070596		1-	B	c2
D 1038	DIODE				HVC350B-TRF	G2070596		1-	B	c1
D 1039	DIODE				HVC350B-TRF	G2070596		1-	B	c1
D 1040	DIODE				MA2S111-(TX)	G2070614		1-	B	b2
D 1041	DIODE				HVC350B-TRF	G2070596		1-	B	b2
D 1042	DIODE				HVC350B-TRF	G2070596		1-	B	b2
D 1043	DIODE				MA2S111-(TX)	G2070614		1-	A	E3
D 1044	DIODE				MA2S111-(TX)	G2070614		1-	A	E1
D 1046	DIODE				DA221 TL	G2070178		1-	A	D2
D 1047	DIODE				DA221 TL	G2070178		1-	B	c2
D 1048	DIODE				MA2S111-(TX)	G2070614		1-	B	d1
D 1049	DIODE				HZU4ALL-TR	G2070428		1-	A	C1
D 1050	DIODE				MA132WK-(TX)	G2070776		1-	B	c3
D 1051	DIODE				MA132WK-(TX)	G2070776		1-	B	c3
D 1052	DIODE				HVC350B-TRF	G2070596		1-	B	d1
D 1053	DIODE				DA221 TL	G2070178		1-	B	d2
D 1054	DIODE				DA221 TL	G2070178		1-	B	d3
D 1055	DIODE				HVC350B-TRF	G2070596		1-	B	d2
D 1056	DIODE				HVC350B-TRF	G2070596		1	B	d2
D 1057	DIODE				MA2S111-(TX)	G2070614		1-	B	e2
D 1058	DIODE				HVC350B-TRF	G2070596		1-	B	d1
D 1059	DIODE				DA221 TL	G2070178		1-	A	C3
D 1060	DIODE				DA221 TL	G2070178		1-	A	C2
DS1001	LCD				J015001	G6090136		1-	A	E2
F 1001	CHIP FUSE	4A			KAB-2402-402NA31	Q0000086		1-	A	D3
J 1005	CONNECTOR				AXK6S40535P	P0091209		1-	B	e2
L 1001	COIL	0.014uH			AS050425-14NK	L0022583		1-	B	a1
L 1002	COIL	0.012uH			AS030321-12NK	L0022582		1-	B	a1
L 1003	COIL	0.012uH			AS030321-12NK	L0022582		1-	B	a1
L 1004	COIL	0.014uH			AS050425-14NK	L0022583		1-	B	a1
L 1005	COIL	0.014uH			AS050425-14NK	L0022583		1-	B	a1
L 1006	COIL	0.014uH			AS050425-14NK	L0022583		1-	B	a1
L 1007	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-	B	a2
L 1008	COIL	0.018uH			AS030421-18NK	L0022584		1-	B	a2
L 1009	M.RFC	0.1uH		5%	C1608C-R10J	L1690972		1-	B	b1
L 1009	M.RFC	0.1uH		5%	C1608CB-R10J	L1691063		8-	B	b1
L 1009	M.RFC	0.1uH		2%	C1608CB-R10G	L1691045		55-	B	b1
L 1010	COIL	0.018uH			AS030421-18NK	L0022584		1-	B	a2
L 1011	COIL	0.018uH			AS030421-18NK	L0022584		1-	B	a2
L 1013	M.RFC	0.082uH			LK1608 82NM-T	L1690393		1-	B	d1
L 1014	M.RFC	1uH			LK1608 1R0K-T	L1690687		1-	B	b2
L 1015	M.RFC	0.0047uH			HK1608 4N7S-T	L1690512		1-20	B	b2
L 1015	M.RFC	0.0047uH			HK1608 4N7S-T	L1690512	CS VERSION	21-	B	b2
L 1015	M.RFC	0.0047uH			HK1608 4N7S-T	L1690512	VERSION A	21-	B	b2
L 1015	M.RFC	0.018uH			HK1608 18NJ-T	L1690519	VERSION D	21-	B	b2
L 1016	M.RFC	0.18uH			LK1608 R18K-T	L1690392		1-5	B	b2
L 1016	M.RFC	0.18uH			LK1608 R18K-T	L1690392	CS VERSION	6-	B	b2
L 1016	M.RFC	0.082uH			LK1608 82NM-T	L1690393	VERSION A	6	B	b2
L 1016	M.RFC	0.01uH			HK1608 10NJ-T	L1690516	VERSION A	7-	B	b2
L 1016	M.RFC	0.18uH			LK1608 R18K-T	L1690392	VERSION D	6-	B	b2
L 1017	M.RFC	0.027uH			HK1608 27NJ-T	L1690521		1-	B	c2
L 1018	M.RFC	0.056uH			HK1608 56NJ-T	L1690525		1-	B	c2
L 1019	M.RFC	0.33uH			LK1608 R33K-T	L1690412		1	B	c2
L 1019	M.RFC	0.39uH			LK1608 R39K-T	L1690413		2-	B	c2
L 1020	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-	B	c1

Main Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
L 1022	M.RFC	1uH			LK1608 1R0K-T	L1690687		1-	B	c2
L 1023	M.RFC	1uH			LK1608 1R0K-T	L1690687		1-	B	b2
L 1024	M.RFC	0.027uH			HK1608 27NJ-T	L1690521		1-	B	d2
L 1025	M.RFC	0.056uH			HK1608 56NJ-T	L1690525		1-	B	d2
L 1026	M.RFC	100uH			FLC32T-101J	L1690227		1-	A	C1
L 1027	M.RFC	2.2uH			LK1608 2R2K-T	L1690634		1-	B	d2
L 1028	COIL	0.018uH			AS030421-18NK	L0022584		1-	B	a1
L 1029	M.RFC	0.27uH			LK1608 R27K-T	L1690411		1-	B	a1
L 1031	COIL	0.025uH			AS030521-25NK	L0022585		1-5	B	c2
L 1031	COIL	0.025uH			AS030521-25NK	L0022585	CS VERSION	6-	B	c2
L 1031	COIL	0.033uH			AS030621-33NK	L0022586	VERSION A	6-	B	c2
L 1031	COIL	0.025uH			AS030521-25NK	L0022585	VERSION D	6-	B	c2
L 1032	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-	B	c1
L 1033	M.RFC	1uH			LK1608 1R0K-T	L1690687		1-	B	b2
L 1033	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		5-	B	b2
L 1034	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-	B	d1
L 1035	M.RFC	0.33uH			LK1608 R33K-T	L1690412		1-	B	d2
L 1036	COIL	0.025uH			AS030521-25NK	L0022585		1-5	B	b2
L 1036	COIL	0.025uH			AS030521-25NK	L0022585	CS VERSION	6-	B	b2
L 1036	COIL	0.033uH			AS030621-33NK	L0022586	VERSION A	6-	B	b2
L 1036	COIL	0.025uH			AS030521-25NK	L0022585	VERSION D	6-	B	b2
L 1038	M.RFC	0.68uH			LK1608 R68K-T	L1690416		1-	B	b2
L 1039	M.RFC	1uH			LK1608 1R0K-T	L1690687		1-	B	c2
L 1040	M.RFC	1uH			LK1608 1R0K-T	L1690687		1-	B	e1
L 1041	M.RFC	1uH			LK1608 1R0K-T	L1690687		1-	B	e1
L 1042	M.RFC	1uH			LK1608 1R0K-T	L1690687		1-	B	e1
L 1043	M.RFC	1uH			LK1608 1R0K-T	L1690687		1-	B	e1
L 1045	M.RFC	0.082uH			LK1608 82NM-T	L1690393		1	B	c1
L 1045	M.RFC	0.015uH			HK1608 15NJ-T	L1690518		2-	B	c1
MC1001	MIC. ELEMENT				EM-140	M3290032		1-	A	C3
MC1002	MIC. ELEMENT				EM-140	M3290032		1-	B	e3
Q 1001	TRANSISTOR				2SC5226-4-TL	G3352268D		1-	B	a2
Q 1002	TRANSISTOR				CPH6102-TL	G3070223		1-	B	b1
Q 1003	TRANSISTOR				XP1501-(TX)	G3070143		1-	B	b1
Q 1004	TRANSISTOR				UMG2N TR	G3070088		1-	B	d1
Q 1005	IC				TK71650SCL	G1093136		1-	B	d3
Q 1005	IC				TK71750SCL	G1093836		43-	B	d3
Q 1006	TRANSISTOR				PDTC114TE	G3070238		1-	B	e3
Q 1007	TRANSISTOR				UMZ2N TR	G3070117		1-	A	C2
Q 1008	TRANSISTOR				CPH6102-TL	G3070223		1-	A	E2
Q 1011	TRANSISTOR				UN911F-(TX)	G3070150		1-	B	d1
Q 1011	TRANSISTOR				UNR911FJ0L	G3070349		63-	B	d1
Q 1012	TRANSISTOR				2SD1767 T100 Q	G3417677Q		1-	B	e3
Q 1014	TRANSISTOR				UMG2N TR	G3070088		1-	A	E1
Q 1015	TRANSISTOR				PDTC144EE	G3070244		1-	A	D2
Q 1016	TRANSISTOR				PDTC144EE	G3070244		1-	A	D2
Q 1017	IC				TDA2822D013TR	G1091542		1-	A	D3
Q 1018	IC				NJM2902V-TE1	G1091679		1-	A	C1
Q 1019	IC				M68732HA-22	G1092836		1-5	B	c1
Q 1019	IC				M68732HA-22	G1092836	CS VERSION	6-	B	c1
Q 1019	IC				RA07M4452MSA-01	G1094133	CS VERSION	59-	B	c1
Q 1019	IC				M68732LA-22	G1092918	VERSION A	6-	B	c1
Q 1019	IC				M68732HA-22	G1092836	VERSION D	6-	B	c1
Q 1019	IC				RA07M4452MSA-01	G1094133	VERSION D	57-	B	c1
Q 1020	TRANSISTOR				PDTC144EE	G3070244		1-	A	C1
Q 1021	TRANSISTOR				PDTC144EE	G3070244		1-	A	C1
Q 1022	IC				NJM2902V-TE1	G1091679		1-	A	C3
Q 1023	TRANSISTOR				UN911F-(TX)	G3070150		1-	B	e3
Q 1023	TRANSISTOR				UNR911FJ0L	G3070349		63-	B	e3
Q 1025	IC				M62364FP 600D	G1093033		1-	B	d1

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
Q 1026	TRANSISTOR				PDTC114TE	G3070238	CS VERSION VERSION A VERSION D	1-	A	C1
Q 1028	IC				AK2345(TAPE)	G1093184		1-	B	e1
Q 1030	TRANSISTOR				2SC5226-4-TL	G3352268D		1-	B	c2
Q 1031	TRANSISTOR				PDTC114TE	G3070238		1-	B	c2
Q 1032	TRANSISTOR				PDTC114TE	G3070238		1-	B	e1
Q 1033	FET				2SK508-T2B K52	G3805087B		1-	B	c1
Q 1034	TRANSISTOR				2SC5226-4-TL	G3352268D		1-	B	c2
Q 1035	TRANSISTOR				PDTC144EE	G3070244		1-	B	b1
Q 1036	TRANSISTOR				PDTC144EE	G3070244		1-6	B	c2
Q 1036	TRANSISTOR				PDTC114TE	G3070238		7-	B	c2
Q 1036	TRANSISTOR				PDTC114TE	G3070238		7-	B	c2
Q 1036	TRANSISTOR				PDTC144EE	G3070244		7-	B	c2
Q 1037	TRANSISTOR				2SC4215Y TE85R	G3342157Y		1-	B	c2
Q 1037	TRANSISTOR				2SC5226-4-TL	G3352268D		4-	B	c2
Q 1038	TRANSISTOR				2SC4617 TL R	G3346178R		1-	B	b2
Q 1039	TRANSISTOR				2SC4227-T2 R32	G3342277B		1-	B	c2
Q 1039	TRANSISTOR				2SC4227-T1 R32	G3342278B		66-	B	c2
Q 1040	TRANSISTOR				PDTC144EE	G3070244		1-	B	d2
Q 1041	TRANSISTOR				2SC5226-4-TL	G3352268D		1-	B	d2
Q 1042	IC				TK71635SCL	G1093135		1-	A	C1
Q 1042	IC				TK71735SCL	G1093835		53-	A	C1
Q 1043	TRANSISTOR				XN1501-(TX)	G3070149		1-	A	C1
Q 1044	TRANSISTOR				CPH6102-TL	G3070223		1-	A	C1
Q 1045	IC				S-80735SN-DZ-T1	G1091876		1-	A	C2
Q 1045	IC				S-80835CNMC-B8U-T2	G1093606		31-	A	C2
Q 1046	IC				TA31136FN(EL)	G1091605		1-	B	c3
Q 1047	IC				S-93C46AMFN-TB	G1093147		1-	A	D1
Q 1048	IC				LC87F72C8A-F5N19	✖		1-	A	D1
Q 1049	TRANSISTOR				2SC4617 TL R	G3346178R		1-	A	D1
Q 1050	TRANSISTOR				2SC4617 TL R	G3346178R		1-	A	D1
Q 1051	TRANSISTOR				2SC4617 TL R	G3346178R		1-	B	d2
Q 1053	TRANSISTOR				2SC4617 TL R	G3346178R		1-	B	d2
Q 1054	IC				SA7025DK	G1093014		1-	B	d2
Q 1055	TRANSISTOR				PDTC144EE	G3070244		1-	B	c3
Q 1056	TRANSISTOR				PDTC144EE	G3070244		1-	B	d3
Q 1058	TRANSISTOR				PDTC114TE	G3070238		1-	B	e3
Q 1060	TRANSISTOR				2SC3356-T2B R25	G3333567E		1-	B	c1
Q 1061	TRANSISTOR				2SC4617 TL R	G3346178R		1-	B	d2
Q 1062	TRANSISTOR				2SA1774 TL R	G3117748R		1-	A	D3
Q 1063	IC				TDA2822D013TR	G1091542		1-	A	D2
Q 1064	TRANSISTOR				UMC5N TR	G3070137		1-	B	b3
Q 1065	TRANSISTOR				UMC5N TR	G3070137		1-	B	b3
Q 1066	TRANSISTOR				PDTC144EE	G3070244		1-	B	b3
Q 1067	TRANSISTOR				PDTC114TE	G3070238		1-	A	C1
R 1001	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297	CS VERSION VERSION A	1	A	C2
R 1001	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293		2-	A	C2
R 1002	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	B	a1
R 1003	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-56	B	a1
R 1003	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		57-	B	a1
R 1003	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		57-	B	a1
R 1004	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	B	d1
R 1005	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	b1
R 1006	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	B	b1
R 1007	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293		1-	B	d1
R 1008	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1009	CHIP RES.	330	1/16W	5%	CR05-331J-H	J24189271		1-	A	E1
R 1010	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	B	a2
R 1011	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	E3
R 1012	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	E3
R 1013	CHIP RES.	22	1/16W	5%	CR05-220J-H	J24189257		1-	B	e2

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REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
R 1014	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293		1-	B	e1
R 1015	CHIP RES.	2.2k	1/16W	5%	CR05-222J-H	J24189281		1-	A	C2
R 1016	CHIP RES.	1.2k	1/16W	5%	CR05-122J-H	J24189278		1-	A	C2
R 1017	CHIP RES.	470	1/16W	5%	CR05-471J-H	J24189273		1-	A	C2
R 1018	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293		1-	A	C2
R 1019	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293		1-	A	C2
R 1020	CHIP RES.	220k	1/16W	5%	CR05-224J-H	J24189305		1-	A	C2
R 1021	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	A	C2
R 1022	CHIP RES.	330k	1/16W	5%	CR05-334J-H	J24189307		1-	A	C2
R 1023	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	C2
R 1024	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-	A	D2
R 1025	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	B	a2
R 1026	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-	B	a2
R 1027	CHIP RES.	560	1/16W	5%	CR05-561J-H	J24189274		1-5	B	a2
R 1027	CHIP RES.	560	1/16W	5%	CR05-561J-H	J24189274	CS VERSION	6-20	B	a2
R 1027	CHIP RES.	560	1/16W	5%	CR05-561J-H	J24189274	VERSION D	6-20	B	a2
R 1028	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-20	B	a2
R 1028	CHIP RES.	10	1/16W	5%	CR05-100J-H	J24189253	CS VERSION	21-	B	a2
R 1028	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265	VERSION A	21-	B	a2
R 1028	CHIP RES.	10	1/16W	5%	CR05-100J-H	J24189253	VERSION D	21-	B	a2
R 1029	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	a2
R 1030	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	a2
R 1031	CHIP RES.	33k	1/16W	5%	CR05-333J-H	J24189295		1-56	B	a1
R 1031	CHIP RES.	33k	1/16W	5%	CR05-333J-H	J24189295	CS VERSION	57-	B	a1
R 1031	CHIP RES.	33k	1/16W	5%	CR05-333J-H	J24189295	VERSION A	57-	B	a1
R 1032	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	B	b1
R 1033	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	B	b1
R 1034	CHIP RES.	150	1/10W	5%	RMC1/10T 151J	J24205151		1-	B	b1
R 1035	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	b1
R 1036	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	b1
R 1037	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	A	C1
R 1038	CHIP RES.	270k	1/16W	5%	CR05-274J-H	J24189306		1-	B	d2
R 1039	CHIP RES.	220k	1/16W	5%	CR05-224J-H	J24189305		1-	B	d2
R 1040	CHIP RES.	270	1/16W	5%	CR05-271J-H	J24189270		1-	B	e3
R 1041	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	e1
R 1043	CHIP RES.	1.5M	1/16W	5%	CR05-155J-H	J24189315		1-	A	C2
R 1044	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	b3
R 1045	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	C2
R 1046	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	D2
R 1047	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	A	C1
R 1048	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	D2
R 1049	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	D3
R 1050	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	C3
R 1051	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	B	b3
R 1052	CHIP RES.	2.2k	1/16W	5%	CR05-222J-H	J24189281		1-	A	D2
R 1053	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	a2
R 1054	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1055	CHIP RES.	56k	1/16W	5%	CR05-563J-H	J24189298		1-56	A	C1
R 1055	CHIP RES.	56k	1/16W	5%	CR05-563J-H	J24189298	CS VERSION	57-	A	C1
R 1055	CHIP RES.	27k	1/16W	5%	CR05-273J-H	J24189294	CS VERSION	59-	A	C1
R 1055	CHIP RES.	56k	1/16W	5%	CR05-563J-H	J24189298	VERSION A	57-	A	C1
R 1055	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293	VERSION D	57-	A	C1
R 1056	CHIP RES.	1.5k	1/16W	5%	CR05-152J-H	J24189279		1-	A	C1
R 1057	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	A	C1
R 1059	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293		1-	B	d2
R 1061	CHIP RES.	8.2k	1/16W	5%	CR05-822J-H	J24189288		1-	B	d2
R 1063	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	C1
R 1064	CHIP RES.	33k	1/16W	5%	CR05-333J-H	J24189295		1-	B	e1
R 1065	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	C3
R 1066	CHIP RES.	82k	1/16W	5%	CR05-823J-H	J24189300		1-	B	e1

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
R 1067	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	D2
R 1068	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	D3
R 1069	CHIP RES.	4.7	1/16W	5%	CR05-4R7J-H	J24189249		1-	A	D2
R 1070	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	e1
R 1071	CHIP RES.	4.7	1/16W	5%	CR05-4R7J-H	J24189249		1-	A	D3
R 1072	CHIP RES.	56k	1/16W	5%	CR05-563J-H	J24189298		1-	A	C1
R 1073	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-	B	d1
R 1075	CHIP RES.	33k	1/16W	5%	CR05-333J-H	J24189295		1-	A	B1
R 1076	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	B1
R 1077	CHIP RES.	2.2k	1/16W	5%	CR05-222J-H	J24189281		1-	A	B1
R 1078	CHIP RES.	820k	1/16W	5%	CR05-824J-H	J24189312		1-	A	B1
R 1079	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-	B	d1
R 1080	CHIP RES.	150k	1/16W	5%	CR05-154J-H	J24189303		1-	A	B1
R 1081	CHIP RES.	220k	1/16W	5%	CR05-224J-H	J24189305		1-5	A	C1
R 1081	CHIP RES.	220k	1/16W	5%	CR05-224J-H	J24189305	CS VERSION	6-	A	C1
R 1081	CHIP RES.	150k	1/16W	5%	CR05-154J-H	J24189303	VERSION A	6-	A	C1
R 1081	CHIP RES.	220k	1/16W	5%	CR05-224J-H	J24189305	VERSION D	6-	A	C1
R 1082	CHIP RES.	27k	1/16W	5%	CR05-273J-H	J24189294		1-	A	B1
R 1083	CHIP RES.	120k	1/16W	5%	CR05-124J-H	J24189302		1-	A	B1
R 1084	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	C1
R 1085	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	d1
R 1087	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	a2
R 1089	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	C1
R 1090	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	A	C1
R 1091	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-5	A	C1
R 1091	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289	CS VERSION	6-	A	C1
R 1091	CHIP RES.	15k	1/16W	5%	CR05-153J-H	J24189291	CS VERSION	33-	A	C1
R 1091	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293	VERSION A	6-	A	C1
R 1091	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285	VERSION D	6-	A	C1
R 1092	CHIP RES.	220	1/16W	5%	CR05-221J-H	J24189269		1-	B	d2
R 1093	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	A	C1
R 1094	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	A	C1
R 1095	CHIP RES.	220	1/16W	5%	CR05-221J-H	J24189269		1-	B	c2
R 1096	CHIP RES.	220	1/16W	5%	CR05-221J-H	J24189269		1-	B	b2
R 1098	CHIP RES.	22	1/16W	5%	CR05-220J-H	J24189257		1-	B	e2
R 1099	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	d2
R 1102	CHIP RES.	33k	1/16W	5%	CR05-333J-H	J24189295		1-	A	C3
R 1103	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	A	C3
R 1104	CHIP RES.	2.2M	1/16W	5%	CR05-225J-H	J24189317		1-	A	B3
R 1106	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	e1
R 1107	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	e1
R 1108	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-10	B	d1
R 1108	CHIP RES.	6.8k	1/16W	5%	CR05-682J-H	J24189287	CS VERSION	11-	B	d1
R 1108	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289	VERSION A	11-	B	d1
R 1108	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289	VERSION D	11-	B	d1
R 1109	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-	B	d1
R 1111	CHIP RES.	180k	1/16W	5%	CR05-184J-H	J24189304		1-	B	e1
R 1114	CHIP RES.	15k	1/16W	5%	CR05-153J-H	J24189291		1-	B	e1
R 1115	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	e1
R 1116	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	e1
R 1117	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-	B	b2
R 1118	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293		1-	B	c2
R 1119	CHIP RES.	18	1/16W	5%	CR05-180J-H	J24189256		1-	B	c2
R 1121	CHIP RES.	18	1/16W	5%	CR05-180J-H	J24189256		1-	B	c2
R 1121	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		21-	B	c2
R 1122	CHIP RES.	18	1/16W	5%	CR05-180J-H	J24189256		1-	B	c2
R 1123	CHIP RES.	68k	1/16W	5%	CR05-683J-H	J24189299		1-6	B	e1
R 1123	CHIP RES.	68k	1/16W	5%	CR05-683J-H	J24189299	CS VERSION	7-	B	e1
R 1123	CHIP RES.	150k	1/16W	5%	CR05-154J-H	J24189303	VERSION A	7-	B	e1
R 1123	CHIP RES.	68k	1/16W	5%	CR05-683J-H	J24189299	VERSION D	7-	B	e1

Main Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
R 1124	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	c2
R 1125	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	c2
R 1126	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-10	B	e1
R 1126	CHIP RES.	6.8k	1/16W	5%	CR05-682J-H	J24189287	CS VERSION	11-	B	e1
R 1126	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289	VERSION A	11-	B	e1
R 1126	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289	VERSION D	11-	B	e1
R 1128	CHIP RES.	330k	1/16W	5%	CR05-334J-H	J24189307		1-	A	B3
R 1130	CHIP RES.	330k	1/16W	5%	CR05-334J-H	J24189307		1-	A	B3
R 1132	CHIP RES.	470k	1/16W	5%	CR05-474J-H	J24189309		1-	A	B2
R 1133	CHIP RES.	470k	1/16W	5%	CR05-474J-H	J24189309		1-	A	C2
R 1134	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	e1
R 1135	CHIP RES.	3.9k	1/16W	5%	CR05-392J-H	J24189284		1-	B	e1
R 1136	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293		1-	B	e1
R 1137	CHIP RES.	1M	1/16W	5%	CR05-105J-H	J24189313		1-	B	e1
R 1139	CHIP RES.	150k	1/16W	5%	CR05-154J-H	J24189303		1-	B	e1
R 1140	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	e1
R 1141	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	B	e1
R 1142	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	B	e1
R 1143	CHIP RES.	220k	1/16W	5%	CR05-224J-H	J24189305		1-	B	e1
R 1144	CHIP RES.	2.7	1/10W	5%	RMC1/10T 2R7J	J24205279		1-	A	D3
R 1145	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	C1
R 1146	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	b2
R 1147	CHIP RES.	12k	1/16W	5%	CR05-123J-H	J24189290		1-	A	C1
R 1148	CHIP RES.	56k	1/16W	5%	CR05-563J-H	J24189298		1-	B	c2
R 1149	CHIP RES.	220	1/16W	5%	CR05-221J-H	J24189269		1-	B	c2
R 1150	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-	B	c1
R 1152	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	b2
R 1153	CHIP RES.	220	1/16W	5%	CR05-221J-H	J24189269		1-	B	b1
R 1155	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	b2
R 1156	CHIP RES.	390	1/16W	5%	CR05-391J-H	J24189272		1-	B	c2
R 1159	CHIP RES.	330k	1/16W	5%	CR05-334J-H	J24189307		1-	A	C2
R 1160	CHIP RES.	330k	1/16W	5%	CR05-334J-H	J24189307		1-	A	C2
R 1161	CHIP RES.	330k	1/16W	5%	CR05-334J-H	J24189307		1-	A	C2
R 1162	CHIP RES.	2.7	1/10W	5%	RMC1/10T 2R7J	J24205279		1-	A	D3
R 1163	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	c2
R 1164	CHIP RES.	270	1/16W	5%	CR05-271J-H	J24189270		1-	B	c2
R 1165	CHIP RES.	470	1/16W	5%	CR05-471J-H	J24189273		1	B	c2
R 1165	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		2-	B	c2
R 1166	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	B	c2
R 1167	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-	B	c2
R 1168	CHIP RES.	3.3k	1/16W	5%	CR05-332J-H	J24189283		1-	B	b2
R 1169	CHIP RES.	6.8k	1/16W	5%	CR05-682J-H	J24189287		1-	B	b2
R 1170	CHIP RES.	150k	1/16W	5%	CR05-154J-H	J24189303		1-	B	c2
R 1171	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	d1
R 1172	CHIP RES.	220	1/16W	5%	CR05-221J-H	J24189269		1-	B	d2
R 1173	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	C1
R 1174	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	A	C1
R 1175	CHIP RES.	3.3k	1/16W	5%	CR05-332J-H	J24189283		1-	A	C1
R 1176	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	C2
R 1177	CHIP RES.	330k	1/16W	5%	CR05-334J-H	J24189307		1-	A	C2
R 1178	CHIP RES.	82k	1/16W	5%	CR05-823J-H	J24189300		1-	A	C2
R 1179	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	C2
R 1180	CHIP RES.	220k	1/16W	5%	CR05-224J-H	J24189305		1-	A	C2
R 1181	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	A	C2
R 1182	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	C2
R 1184	CHIP RES.	2.7k	1/16W	5%	CR05-272J-H	J24189282		1-	B	d3
R 1185	CHIP RES.	2.2k	1/16W	5%	CR05-222J-H	J24189281		1-	B	b2
R 1186	CHIP RES.	2.2k	1/16W	5%	CR05-222J-H	J24189281		1-	B	d2
R 1187	CHIP RES.	12k	1/16W	5%	CR05-123J-H	J24189290		1-	B	c3
R 1187	CHIP RES.	3.3k	1/16W	5%	CR05-332J-H	J24189283		55-	B	c3

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
R 1188	CHIP RES.	560k	1/16W	5%	CR05-564J-H	J24189310		1-	B	d3
R 1189	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	B	d1
R 1190	CHIP RES.	68	1/16W	5%	CR05-680J-H	J24189263		1-	B	d1
R 1191	CHIP RES.	1.8k	1/16W	5%	CR05-182J-H	J24189280		1-	B	d1
R 1192	CHIP RES.	22	1/16W	5%	CR05-220J-H	J24189257		1-	B	d2
R 1193	CHIP RES.	56k	1/16W	5%	CR05-563J-H	J24189298		1-	B	d1
R 1194	CHIP RES.	8.2k	1/16W	5%	CR05-822J-H	J24189288		1-	B	d2
R 1194	CHIP RES.	33k	1/16W	5%	CR05-333J-H	J24189295		19-	B	d2
R 1195	CHIP RES.	12k	1/16W	5%	CR05-123J-H	J24189290		1-	B	d1
R 1196	CHIP RES.	1M	1/16W	5%	CR05-105J-H	J24189313		1-	A	D1
R 1197	CHIP RES.	47	1/16W	5%	CR05-470J-H	J24189261		1	A	D1
R 1197	CHIP RES.	22	1/16W	5%	CR05-220J-H	J24189257		2-	A	D1
R 1198	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	D1
R 1199	CHIP RES.	470k	1/16W	5%	CR05-474J-H	J24189309		1-	A	D2
R 1200	CHIP RES.	470k	1/16W	5%	CR05-474J-H	J24189309		1-	A	D2
R 1201	CHIP RES.	3.9k	1/16W	5%	CR05-392J-H	J24189284		1-	B	d3
R 1202	CHIP RES.	6.8k	1/16W	5%	CR05-682J-H	J24189287		1-	B	d2
R 1203	CHIP RES.	22	1/16W	5%	CR05-220J-H	J24189257		1-	B	d3
R 1204	CHIP RES.	1M	1/16W	5%	CR05-105J-H	J24189313		1-	B	d2
R 1205	CHIP RES.	6.8k	1/16W	5%	CR05-682J-H	J24189287		1-	B	d2
R 1206	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	B	d3
R 1207	CHIP RES.	12k	1/16W	5%	CR05-123J-H	J24189290		1-	B	c3
R 1208	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	d3
R 1209	CHIP RES.	2.2k	1/16W	5%	CR05-222J-H	J24189281		1-	B	d2
R 1210	CHIP RES.	12k	1/16W	5%	CR05-123J-H	J24189290		1-	B	c3
R 1211	CHIP RES.	680	1/16W	5%	CR05-681J-H	J24189275		1-	B	d3
R 1212	CHIP RES.	3.3k	1/16W	5%	CR05-332J-H	J24189283		1-	B	d2
R 1213	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-	B	d2
R 1214	CHIP RES.	12k	1/16W	5%	CR05-123J-H	J24189290		1-	B	c3
R 1214	CHIP RES.	3.3k	1/16W	5%	CR05-332J-H	J24189283		55-	B	c3
R 1215	CHIP RES.	12k	1/16W	5%	CR05-123J-H	J24189290		1-	B	c3
R 1216	CHIP RES.	22	1/16W	5%	CR05-220J-H	J24189257		1-	B	d2
R 1217	CHIP RES.	100	1/16W	5%	CR05-101J-H	J24189265		1-	B	d2
R 1218	CHIP RES.	470	1/16W	5%	CR05-471J-H	J24189273		1-	B	d2
R 1219	CHIP RES.	2.2k	1/16W	5%	CR05-222J-H	J24189281		1-	B	d1
R 1220	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	B	d2
R 1221	CHIP RES.	150k	1/16W	5%	CR05-154J-H	J24189303		1-	B	d1
R 1222	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	B	d1
R 1223	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	d1
R 1224	CHIP RES.	4.7k	1/16W	5%	CR05-472J-H	J24189285		1-	B	d1
R 1225	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	d3
R 1226	CHIP RES.	330k	1/16W	5%	CR05-334J-H	J24189307		1-	B	d2
R 1227	CHIP RES.	330k	1/16W	5%	CR05-334J-H	J24189307		1-	B	d3
R 1228	CHIP RES.	330k	1/16W	5%	CR05-334J-H	J24189307		1-	B	d3
R 1229	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	d2
R 1230	CHIP RES.	5.6k	1/16W	5%	CR05-562J-H	J24189286		1-	B	c3
R 1231	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	d1
R 1232	CHIP RES.	6.8k	1/16W	5%	CR05-682J-H	J24189287		1-	B	d2
R 1233	CHIP RES.	150k	1/16W	5%	CR05-154J-H	J24189303		1-	B	d2
R 1234	CHIP RES.	150k	1/16W	5%	CR05-154J-H	J24189303		1-	B	d1
R 1235	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	d1
R 1236	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	B	d2
R 1237	CHIP RES.	12k	1/16W	5%	CR05-123J-H	J24189290		1-	A	E1
R 1238	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	E1
R 1239	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	E1
R 1240	CHIP RES.	82k	1/16W	5%	CR05-823J-H	J24189300		1-	A	D2
R 1241	CHIP RES.	39k	1/16W	5%	CR05-393J-H	J24189296		1-	A	D2
R 1242	CHIP RES.	20k	1/16W	0.5%	RR0510R-203-D	J24189150		1-	A	D2
R 1243	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	A	D2
R 1244	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	E1

Main Unit

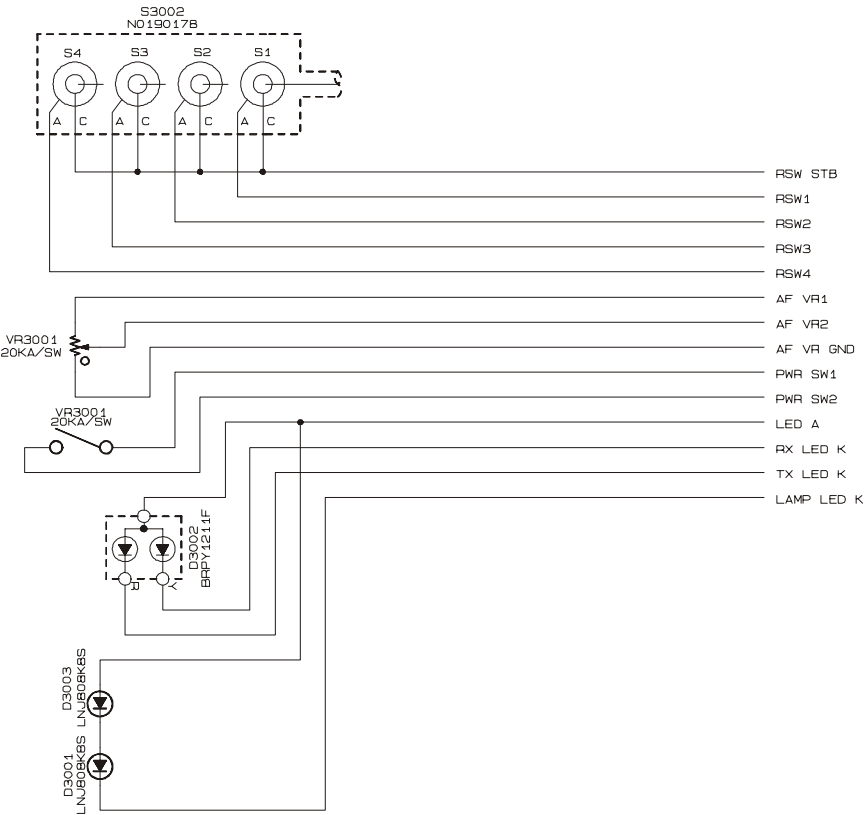
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R 1246	CHIP RES.	12k	1/16W	5%	CR05-123J-H	J24189290		1-	A	C3
R 1247	CHIP RES.	1.2k	1/16W	5%	CR05-122J-H	J24189278		1-	A	C2
R 1248	CHIP RES.	68k	1/16W	5%	CR05-683J-H	J24189299		1-	A	C2
R 1249	CHIP RES.	33k	1/16W	5%	CR05-333J-H	J24189295		1-	A	C2
R 1250	CHIP RES.	220k	1/16W	5%	CR05-224J-H	J24189305		1-	A	C2
R 1252	CHIP RES.	100k	1/16W	5%	CR05-104J-H	J24189301		1-	A	D1
R 1255	CHIP RES.	22	1/16W	5%	CR05-220J-H	J24189257		1-	B	e2
R 1256	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	C1
R 1257	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	B	d1
R 1258	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	d1
R 1259	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1262	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	C3
R 1265	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	D1
R 1266	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	D1
R 1267	CHIP RES.	12k	1/16W	5%	CR05-123J-H	J24189290		1-	B	e2
R 1268	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	e2
R 1269	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	A	D1
R 1270	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	A	D1
R 1271	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	A	D2
R 1272	CHIP RES.	2.2k	1/16W	5%	CR05-222J-H	J24189281		1-	A	D2
R 1274	CHIP RES.	8.2k	1/16W	5%	CR05-822J-H	J24189288		1-	B	c1
R 1275	CHIP RES.	47	1/16W	5%	CR05-470J-H	J24189261		1-	B	d1
R 1276	CHIP RES.	470k	1/16W	5%	CR05-474J-H	J24189309		1-	B	d2
R 1277	CHIP RES.	8.2k	1/16W	5%	CR05-822J-H	J24189288		1-	A	D2
R 1278	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	C2
R 1279	CHIP RES.	33k	1/16W	5%	CR05-333J-H	J24189295		1-	A	E1
R 1280	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	B	b2
R 1281	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	B	b3
R 1282	CHIP RES.	47k	1/16W	5%	CR05-473J-H	J24189297		1-	B	b3
R 1285	CHIP RES.	4.7	1/16W	5%	CR05-4R7J-H	J24189249		1-	A	D2
R 1286	CHIP RES.	4.7	1/16W	5%	CR05-4R7J-H	J24189249		1-	A	D3
R 1287	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1288	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1289	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1290	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1291	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1292	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1293	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1294	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1295	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1296	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1297	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1298	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1299	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1300	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1301	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	E1
R 1302	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1303	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1304	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1305	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1306	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1307	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1308	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1309	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1310	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1311	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1312	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1313	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1314	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1315	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
R 1316	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1317	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1318	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1319	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1320	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1321	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	A	D1
R 1322	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1323	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D1
R 1324	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1325	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1326	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1327	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1328	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1329	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1330	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1331	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1332	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1333	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1334	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1335	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1-	A	D2
R 1339	CHIP RES.	22k	1/16W	5%	CR05-223J-H	J24189293		1-	B	b3
R 1340	CHIP RES.	15k	1/16W	5%	CR05-153J-H	J24189291		1-	B	e1
R 1341	CHIP RES.	150k	1/16W	5%	CR05-154J-H	J24189303		1-	B	e1
R 1342	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	e2
R 1343	CHIP RES.	10k	1/16W	5%	CR05-103J-H	J24189289		1-	B	e2
R 1344	CHIP RES.	56	1/16W	5%	CR05-560J-H	J24189262		1-	B	d2
R 1345	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	e2
R 1345	CHIP RES.	0	1/16W		CR05-000-H	J24189248		4-	B	e2
R 1346	CHIP RES.	1k	1/16W	5%	CR05-102J-H	J24189277		1	B	c2
R 1346	CHIP RES.	680	1/16W	5%	CR05-681J-H	J24189275		2-	B	c2
R 1347	CHIP RES.	0	1/16W		CR05-000-H	J24189248		1-	B	a2
R 1348	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	a2
R 1348	CHIP RES.	470	1/16W	5%	CR05-471J-H	J24189273		4-5	B	a2
R 1348	CHIP RES.	470	1/16W	5%	CR05-471J-H	J24189273	CS VERSION	6-	B	a2
R 1348	CHIP RES.	330	1/16W	5%	CR05-331J-H	J24189271	CS VERSION	21-	B	a2
R 1348	CHIP RES.	220	1/16W	5%	CR05-221J-H	J24189269	VERSION A	6-	B	a2
R 1348	CHIP RES.	330	1/16W	5%	RMC1/16S 331JTH	J24189019	VERSION A	19-	B	a2
R 1348	CHIP RES.	330	1/16W	5%	CR05-331J-H	J24189271	VERSION A	21-	B	a2
R 1348	CHIP RES.	470	1/16W	5%	CR05-471J-H	J24189273	VERSION D	6-	B	a2
R 1348	CHIP RES.	330	1/16W	5%	CR05-331J-H	J24189271	VERSION D	21-	B	a2
R 1349	CHIP RES.	39k	1/16W	5%	CR05-393J-H	J24189296		1		
R 1349	CARBON FILM RES.	180k	1/6W	5%	RD16UJ184 180K	J02225184	CS VERSION	59-		
R 1349	CARBON FILM RES.	180k	1/6W	5%	RD16UJ184 180K	J02225184	VERSION D	57-		
S 1003	TACT SWITCH				SKQTLB	N5090111		1-	A	E3
S 1004	TACT SWITCH				SKQTLB	N5090111		1-	A	E1
S 1005	TOGGLE SWITCH				ATE1E-6M3-14	N2090059		1-	B	a3
S 1005	TOGGLE SWITCH				ATE1E-6M3-17	N2090073		60-	B	a3
T 1001	BALUN TRANSFOMERS				B5F458DB-1003=P3	L0190244		1-	B	b2
T 1002	BALUN TRANSFOMERS				B5F458DB-1003=P3	L0190244		1-	B	b2
T 1003	BALUN TRANSFOMERS				B5F458PT-1405	L0190250		1-	B	b2
TH1001	THERMISTOR				ERTJ0ER103J	G9090119		1-	B	d2
TH1002	THERMISTOR				ERTJ0ER103J	G9090119		1-	B	d2
TH1003	THERMISTOR				ERTJ0EV473J	G9090120		1-	A	E1
X 1001	XTAL CX-5F	3.6864MHz			3.6864MHZ	H0103222		1-	A	D1
X 1001	XTAL SX-2204	3.6864MHz			3.6864MHZ	H0103249		11-	A	D1
X 1002	XTAL CX-91F	14600kHz			14600KHZ	H0103240		1	B	d2
X 1002	XTAL SX-2112	14.6MHz			14.6MHZ	H0103237		2-	B	d2
X 1002	XTAL SX-2112	14.6MHz			14.6MHZ	H0103260		33-	B	d2
XF1001	XTAL FILTER				MXF44.25-11B-FP2	H1102341		1	B	c2
XF1001	XTAL FILTER				HDF0028 44.25MHZ	H1102338		2-	B	c2

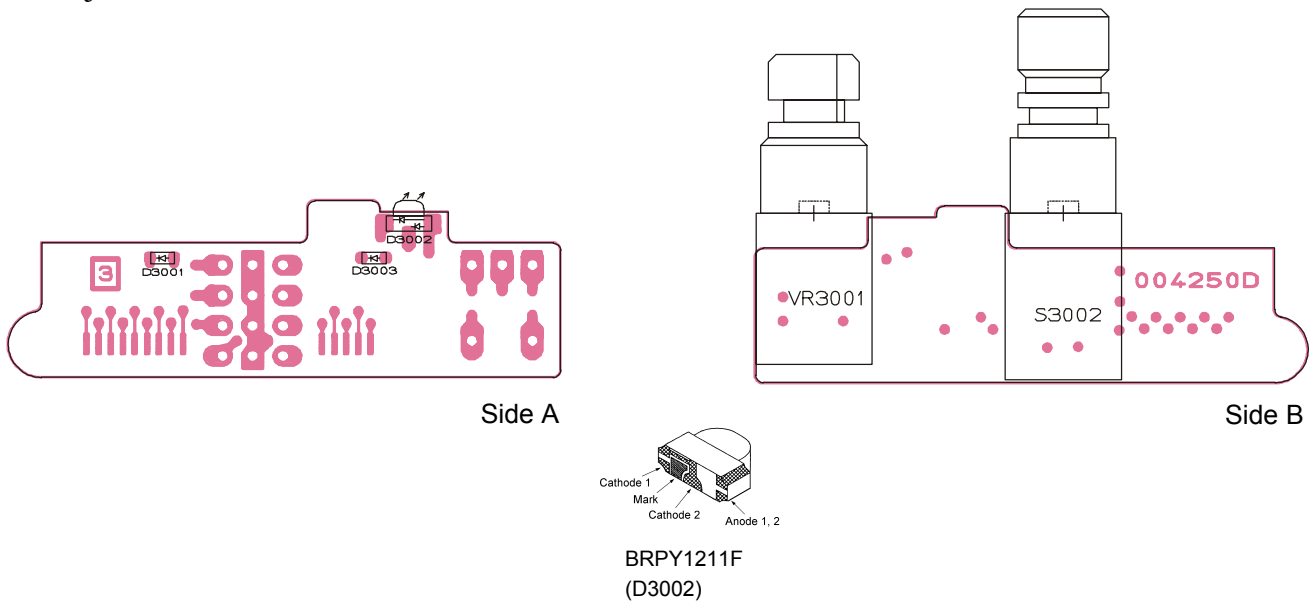
Main Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
XF1002	XTAL FILTER				MXF44.25-11B-FP2	H1102341		1	B	c2
XF1002	XTAL FILTER				HDF0028 44.25MHZ	H1102338		2-	B	c2
	MIC HOLDER RUBBER				(F)	RA0207800		1-		
	MIC HOLDER RUBBER					RA0207900		1-		
	MIC HOLDER RUBBER					RA020790A		8-		
	SHIELD CASE VCO					RA0208100		1-		
	HOLDER PLATE				(PM)	RA0106700		1-		
	O RING					RA0088900		1-		
	O RING					RA008890A		6-		
	TERMINAL PLATE				(+)	RA0207100		1-		
	TERMINAL PLATE				(+)	RA020710A		8-		
	HOLDER PLATE				(TGL)	RA0207700		1-		
	LIGHT GUIDE					RA0206200		1-		
	LCD HOLDER					RA0206400		1-		
	HOLDER PLATE				(LCD)	RA0206800		1-		
	INTER CONNECTOR				(LCD)	RA0207400		1-		
	INTER CONNECTOR				(Vol)	RA0207500		1-		
	INTER CONNECTOR				(Ch)	RA0207600		1-		
	REFLECTOR SHEET					RA0217400		1-		
	MYLAR SHEET					RA0217300		1-		
	SHIELD CASE COVER					RA0233500		1-		

Circuit Diagram



Parts Layout

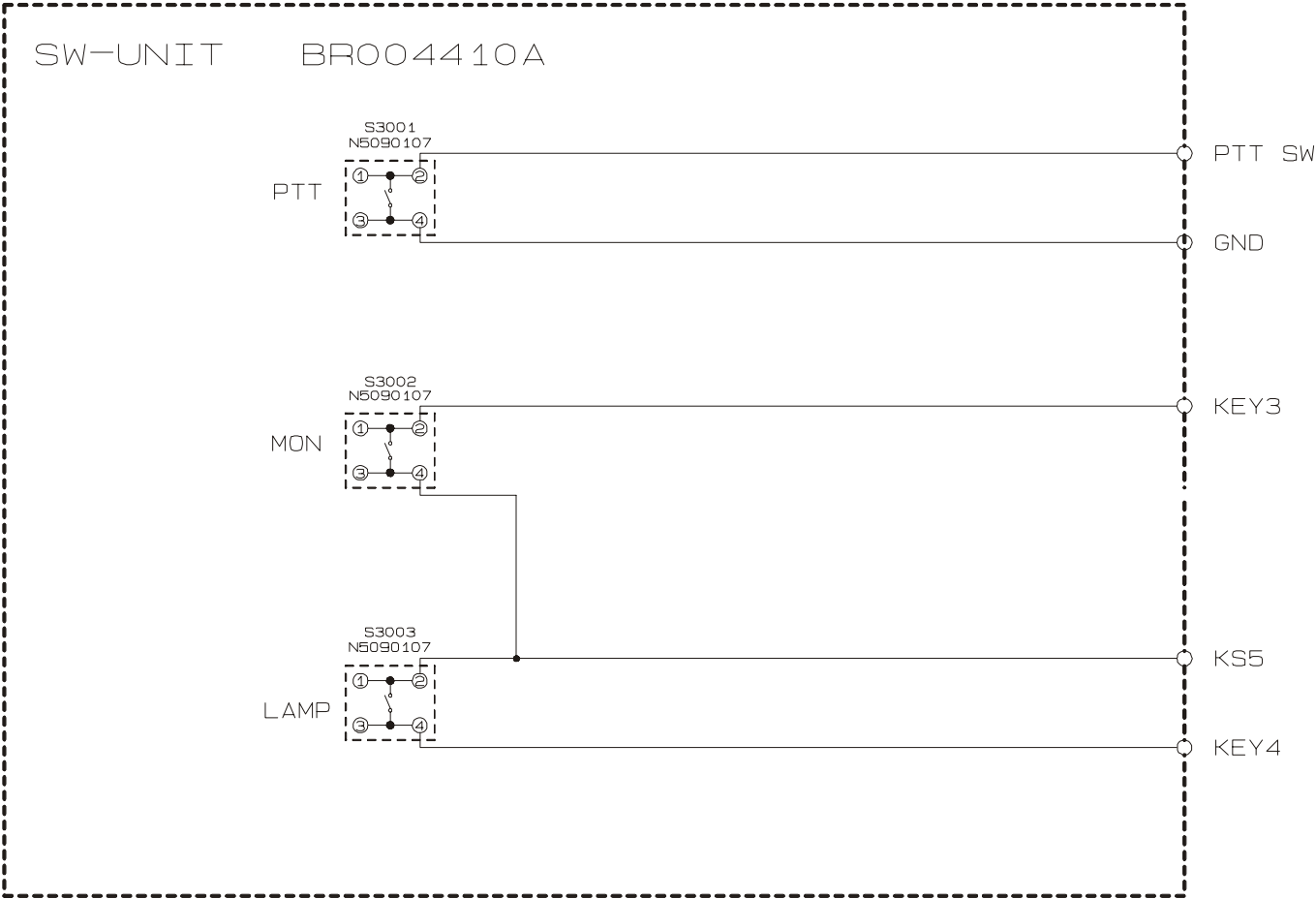


Parts List

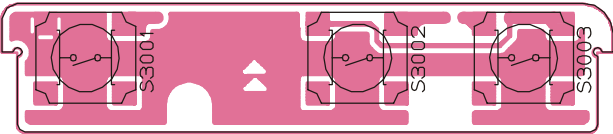
REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
*** VR UNIT ***										
PCB with Components						CB0971001				
Printed Circuit Board						FR004250D		1-		
D 3001	LED				LNJ808K8SRA	G2070790		1-	A	
D 3002	LED				BRPY1211F-TR	G2070706		1-	A	
D 3003	LED				LNJ808K8SRA	G2070790		1-	A	
S 3002	ROTARY SWITCH				TP70QF4162	N0190178		1-	B	
VR3001	POT.				TP76N00N 20KA/SW	J60800239		1-	B	

SW Unit

Circuit Diagram



Parts Layout



Component Side

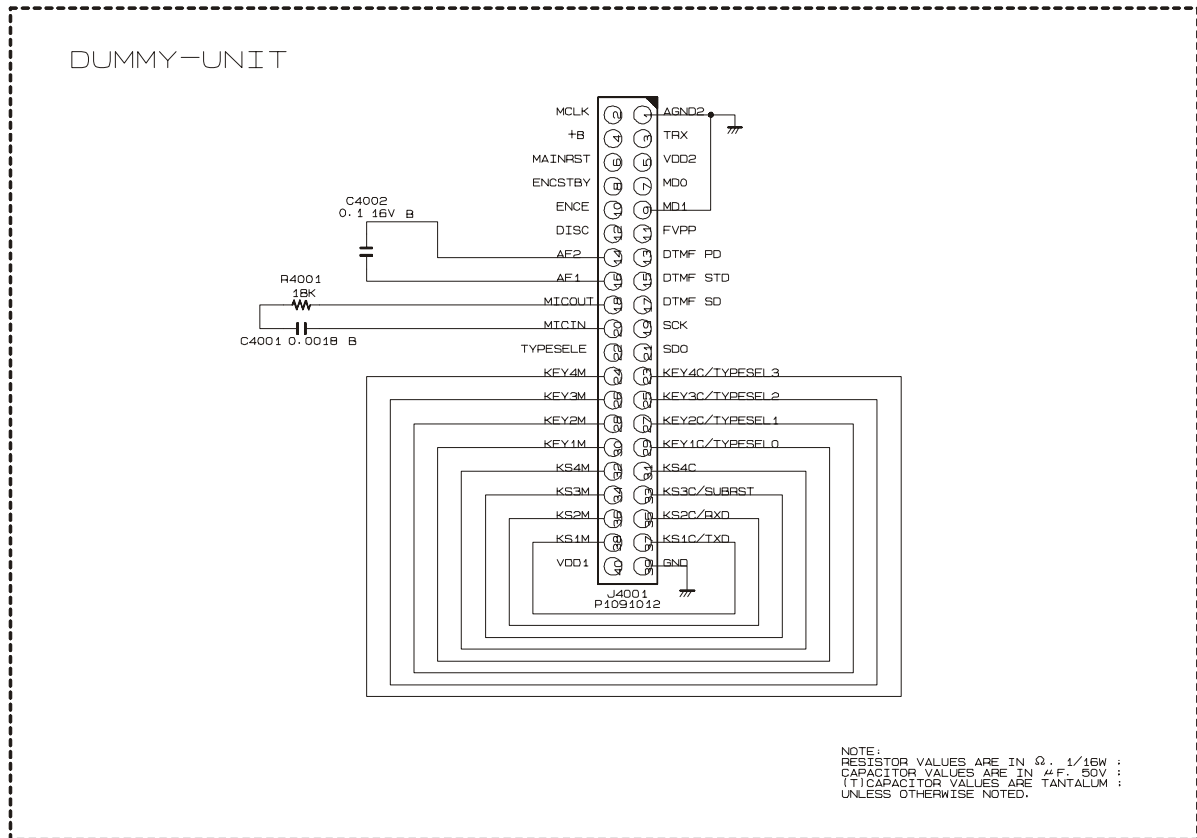


Solder Side

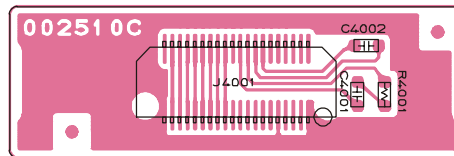
Parts List

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
*** SW UNIT ***										
PCB with Components						CB0972001				
Printed Circuit Board						FR004410A		1-		
S 3001	TACT SWITCH				SOP-114HST R66-5374	N5090107		1-	A	
S 3002	TACT SWITCH				SOP-114HST R66-5374	N5090107		1-	B	
S 3003	TACT SWITCH				SOP-114HST R66-5374	N5090107		1-	A	
	MYLAR SHEET					RA011720A		1-		

Circuit Diagram



Parts Layout



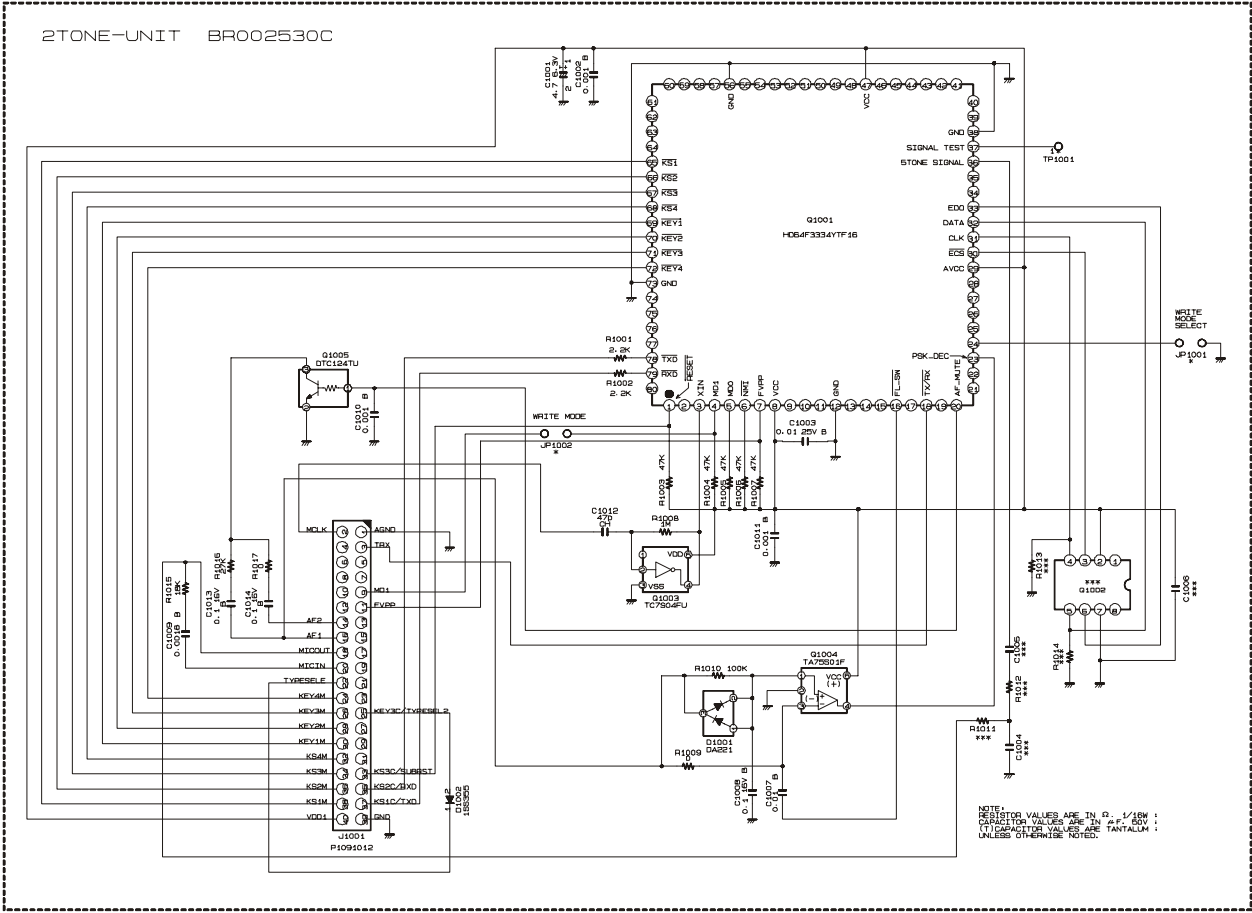
Component Side

Parts List

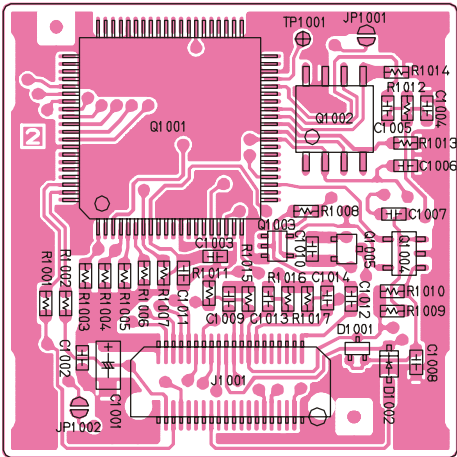
REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VS P/N	VERS.	LOT.	SIDE	LAY ADR
*** DUMMY UNIT ***										
PCB with Components						CB0973001				
Printed Circuit Board						FR002510C		1-		
C 4001	CHIP CAP.	0.0018uF	50V	B	GRM39B182M50PT	K22174812		1-		
C 4002	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-		
J 4001	CONNECTOR				AXK5S40035P	P1091012		1-		
R 4001	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-		

F2D-8 2-Tone Decode Unit

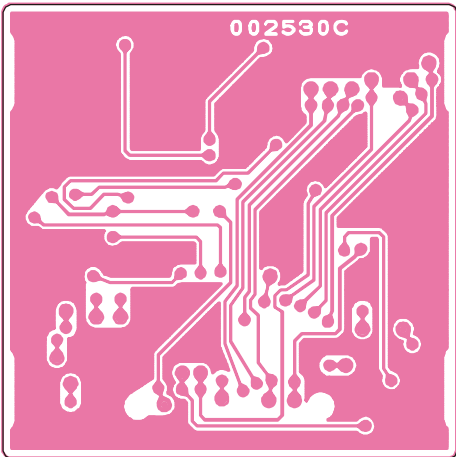
Circuit Diagram



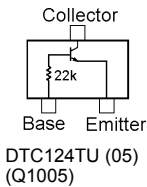
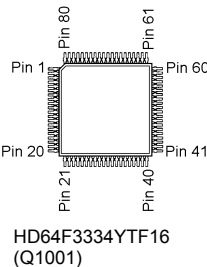
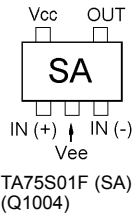
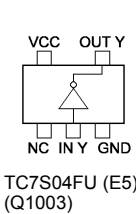
Parts Layout



Side A



Side B



F2D-8 2-Tone Decode Unit

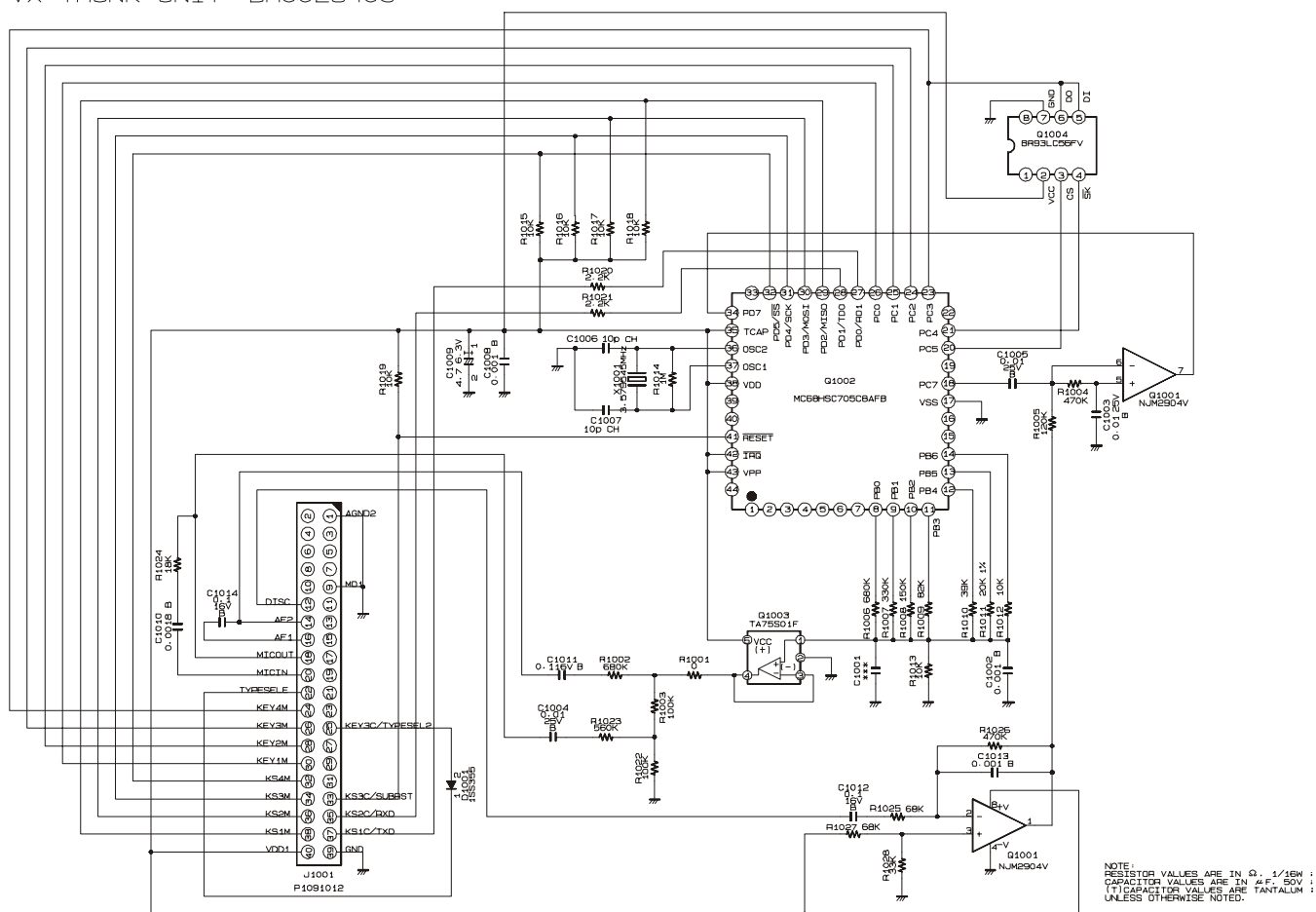
Parts List

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
*** F2D-8 ***										
Printed Circuit Board						FR002530C		1-	A	
C 1001	CHIP TA.CAP.	4.7uF	6.3V		TEMSVA0J475M-8R	K78080017		1-	A	
C 1002	CHIP CAP.	0.001uF	50V	B	GRM39B102K50PT	K22174821		1-	A	
C 1003	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	
C 1007	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	
C 1007	CHIP CAP.	0.0015uF	50V	B	GRM39B152M50PT	K22174811		6-	A	
C 1007	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		18-	A	
C 1008	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	
C 1009	CHIP CAP.	0.0018uF	50V	B	GRM39B182M50PT	K22174812		1-	A	
C 1010	CHIP CAP.	0.001uF	50V	B	GRM39B102K50PT	K22174821		1-	A	
C 1011	CHIP CAP.	0.001uF	50V	B	GRM39B102K50PT	K22174821		1-	A	
C 1012	CHIP CAP.	47pF	50V	CH	GRM39CH470J50PT	K22174227		1-	A	
C 1013	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	
C 1014	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	
D 1001	DIODE				DA221 TL	G2070178		1-	A	
D 1002	DIODE				1SS355 TE-17	G2070470		1-	A	
J 1001	CONNECTOR				AXK5S40035P	P1091012		1-	A	
Q 1001	IC				HD64F3334YTF16	✖		1-	A	
Q 1001	IC				HD64F3334YTFLH16	✖		6-	A	
Q 1001	IC				HD64F3334YTF16	✖		9-	A	
Q 1003	IC				TC7S04FU TE85R	G1091530		1-	A	
Q 1004	IC				TA75S01F TE85R	G1091593		1-	A	
Q 1005	TRANSISTOR				DTC124TU T106	G3070065		1-	A	
R 1001	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	
R 1002	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	
R 1003	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	
R 1004	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	
R 1005	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	
R 1006	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	
R 1007	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	
R 1008	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	A	
R 1009	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	A	
R 1009	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		6-	A	
R 1010	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	
R 1015	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-	A	
R 1016	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	
R 1016	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		6-	A	
R 1017	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	
	BLIND SHEET					RA0109300		1-		

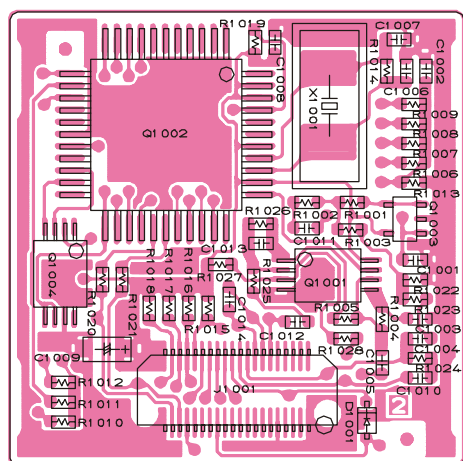
✖ Please contact VERTEX STANDARD.

Circuit Diagram

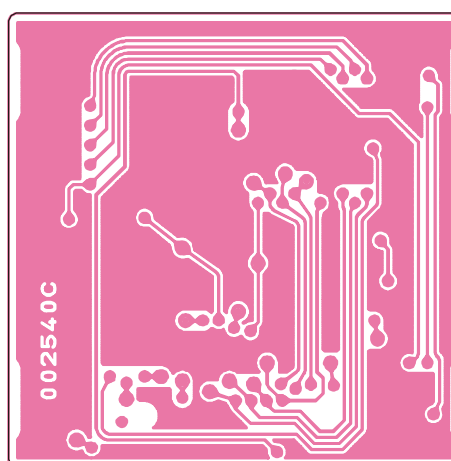
VX-TRUNK-UNIT BR002540C



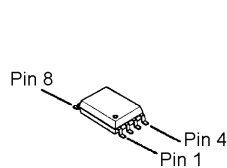
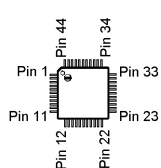
Parts Layout



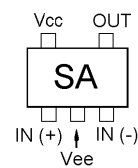
Side A



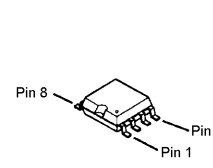
Side B

NJM2904V
(Q1001)

MC68HSC705C8A502
(Q1002)



TA75S01F (SA)
(Q1003)

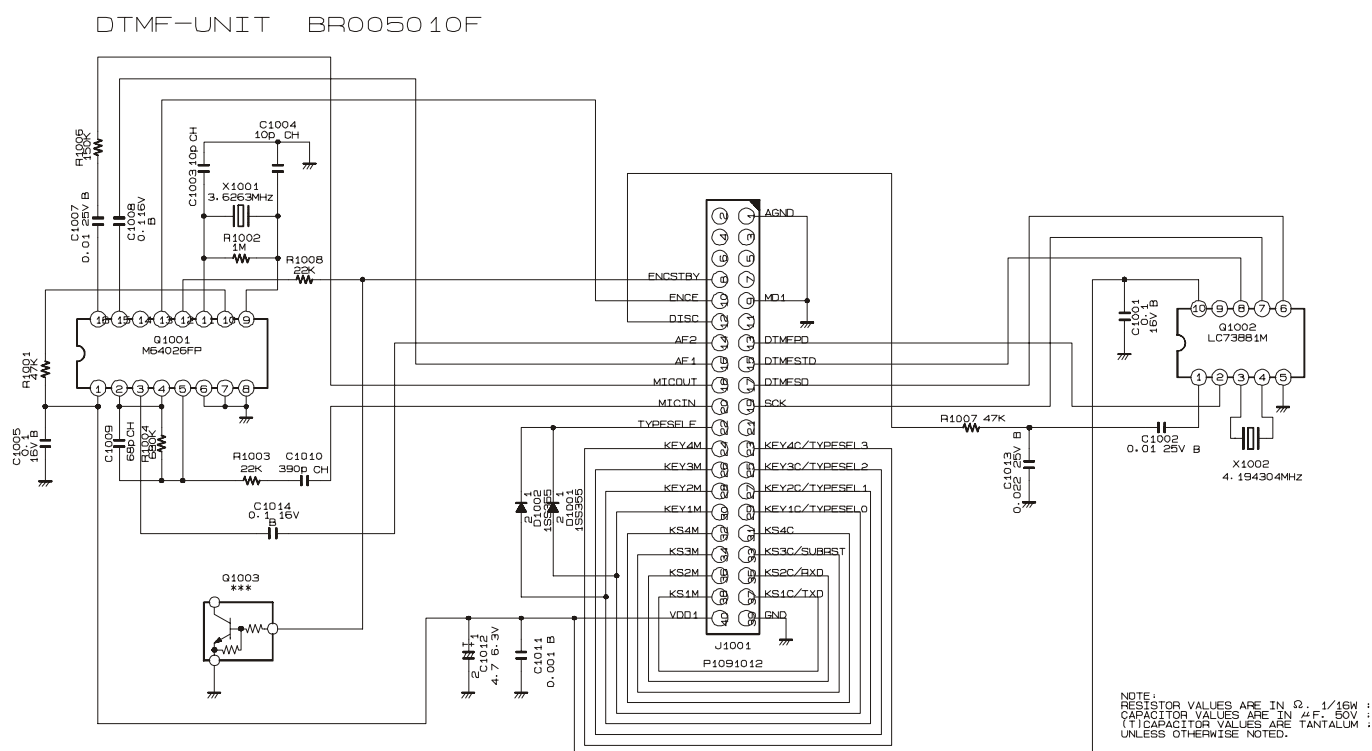
BR93LC56FV
(Q1004)

VTP-50 VX-Trunk Unit

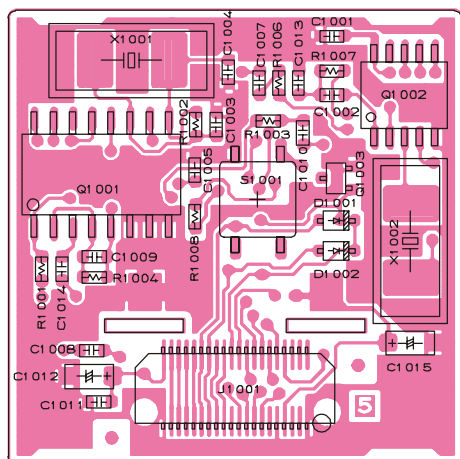
Parts List

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
*** VTP-50 ***										
Printed Circuit Board						FR002540C		1-	A	
C 1002	CHIP CAP.	0.001uF	50V	B	GRM39B102K50PT	K22174821		1-	A	
C 1003	CHIP CAP.	0.01uF	25V	B	GRM39B103M25PT	K22144802		1-	A	
C 1003	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		9-	A	
C 1004	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	
C 1004	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		9-	A	
C 1005	CHIP CAP.	0.01uF	25V	B	GRM39B103M25PT	K22144802		1-	A	
C 1005	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		9-	A	
C 1006	CHIP CAP.	10pF	50V	CH	GRM39CH100C50PT	K22174248		1-	A	
C 1007	CHIP CAP.	10pF	50V	CH	GRM39CH100C50PT	K22174248		1-	A	
C 1008	CHIP CAP.	0.001uF	50V	B	GRM39B102K50PT	K22174821		1-	A	
C 1009	CHIP TA.CAP.	4.7uF	6.3V		TEMSVA0J475M-8R	K78080017		1-	A	
C 1010	CHIP CAP.	0.0018uF	50V	B	GRM39B182M50PT	K22174812		1-	A	
C 1011	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	
C 1012	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	
C 1013	CHIP CAP.	0.001uF	50V	B	GRM39B102K50PT	K22174821		1-	A	
C 1014	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	
D 1001	DIODE				1SS355 TE-17	G2070470		1-	A	
J 1001	CONNECTOR				AXK5S40035P	P1091012		1-	A	
Q 1001	IC				NJM2904V-TE1	G1091677		1-	A	
Q 1002	IC				MC68HSC705C8A502-6030 130	G1092917		1-	A	
Q 1002	IC				MC68HSC705C8A502-6030 131	G1093326		6-	A	
Q 1003	IC				TA75S01F TE85R	G1091593		1-	A	
Q 1004	IC				BR93LC56FV-E2	G1092787		1-	A	
R 1001	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	
R 1002	CHIP RES.	680k	1/16W	5%	RMC1/16 684JATP	J24185684		1-	A	
R 1003	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	
R 1004	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-	A	
R 1005	CHIP RES.	120k	1/16W	5%	RMC1/16 124JATP	J24185124		1-	A	
R 1006	CHIP RES.	680k	1/16W	5%	RMC1/16 684JATP	J24185684		1-	A	
R 1007	CHIP RES.	330k	1/16W	5%	RMC1/16 334JATP	J24185334		1-	A	
R 1008	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		1-	A	
R 1009	CHIP RES.	82k	1/16W	5%	RMC1/16 823JATP	J24185823		1-	A	
R 1010	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393		1-	A	
R 1011	CHIP RES.	20k	1/16W	1%	RMC1/16 203FTP	J24183203		1-	A	
R 1012	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	
R 1013	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	
R 1014	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	A	
R 1015	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	
R 1016	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	
R 1017	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	
R 1018	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	
R 1019	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	
R 1020	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	
R 1021	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	
R 1022	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	
R 1023	CHIP RES.	560k	1/16W	5%	RMC1/16 564JATP	J24185564		1-	A	
R 1024	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-	A	
R 1025	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-	A	
R 1026	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-	A	
R 1027	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-	A	
R 1028	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	A	
X 1001	XTAL SX-1315	3.579545MHZ			3.579545MHZ	H0103185		1-	A	
	BLIND SHEET					RA0109300		1-		

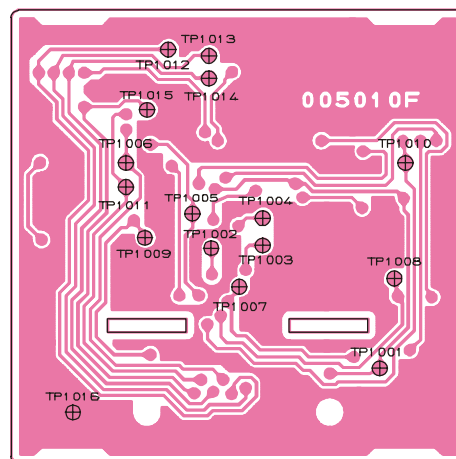
Circuit Diagram



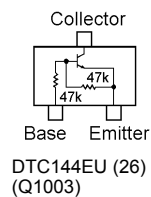
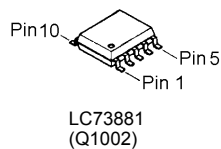
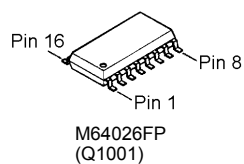
Parts Layout



Side A



Side B

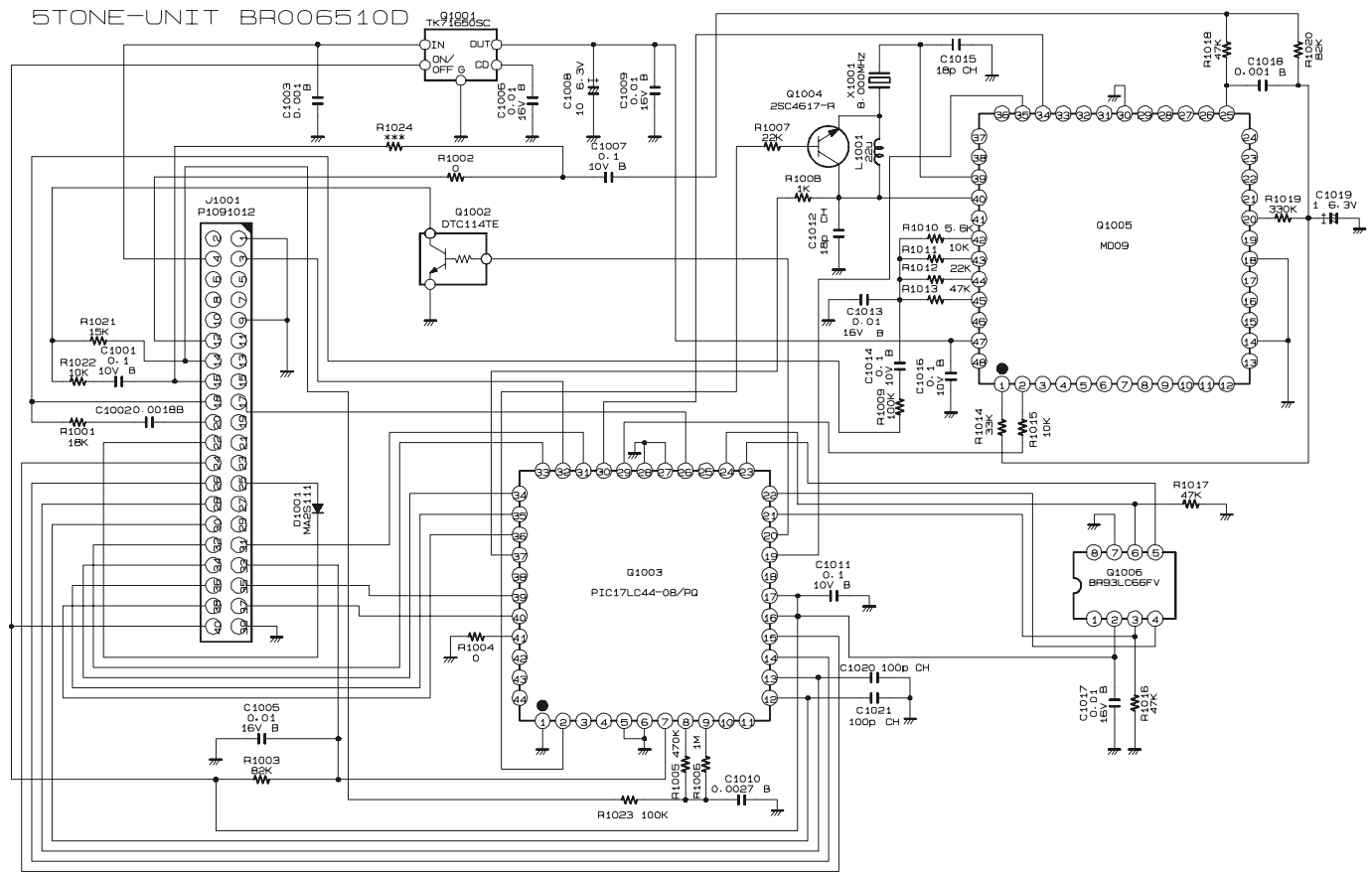


FVP-25 Encryption / DTMF Pager Unit

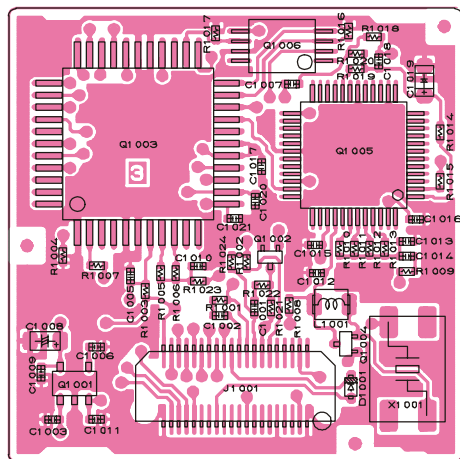
Parts List

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
*** FVP-25 ***										
Printed Circuit Board						FR005010F		1-		
C 1001	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	B1
C 1002	CHIP CAP.	0.01uF	25V	B	GRM39B103M25PT	K22144802		1-	A	B1
C 1003	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-	A	A1
C 1004	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-	A	A1
C 1005	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	A1
C 1007	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	A1
C 1007	CHIP CAP.	0.01uF	25V	B	GRM39B103M25PT	K22144802		32-	A	A1
C 1008	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	A2
C 1009	CHIP CAP.	68pF	50V	CH	GRM39CH680J50PT	K22174231		1-	A	A1
C 1010	CHIP CAP.	390pF	50V	CH	GRM39CH391J50PT	K22174255		1-	A	A1
C 1011	CHIP CAP.	0.001uF	50V	B	GRM39B102K50PT	K22174821		1-	A	A2
C 1012	CHIP TA.CAP.	4.7uF	6.3V		TEMSVA0J475M-8R	K78080017		1-	A	A2
C 1013	CHIP CAP.	0.022uF	25V	B	GRM39B223K25PT	K22144807		1-	A	A1
C 1014	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-	A	A1
D 1001	DIODE				1SS355 TE-17	G2070470		1-	A	B1
D 1002	DIODE				1SS355 TE-17	G2070470		1-	A	B1
J 1001	CONNECTOR				AXK5S40035P	P1091012		1-	A	A2
Q 1001	IC				M64026FP-650C	G1092754		1-	A	A1
Q 1002	IC				LC73881M-TLM	G1092755		1-	A	B1
Q 1003	TRANSISTOR				DTC144EU T106	G3070041		1-	A	B1
R 1001	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	A1
R 1002	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	A	A1
R 1003	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	A1
R 1004	CHIP RES.	680k	1/16W	5%	RMC1/16 684JATP	J24185684		1-	A	A1
R 1006	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		1-	A	A1
R 1007	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	B1
R 1008	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	A1
R 1008	CARBON FILM RES.	22k	1/8W	5%	RD18TJ223 22K	J01215223		14-	A	A1
R 1008	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		17-	A	A1
X 1001	XTAL SX-1315	3.6263MHz			3.6263MHZ	H0103183		1-	A	A1
X 1002	XTAL SX-1315	4.194304MHz			4.194304MHZ	H0103184		1-	A	B1
	BLIND SHEET					RA0109300		1-		

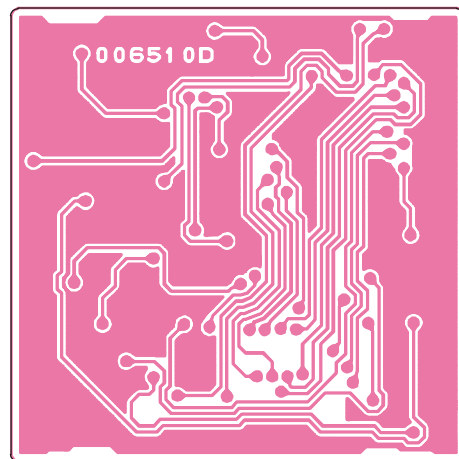
Circuit Diagram



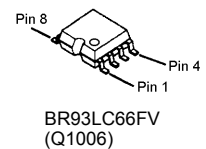
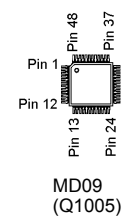
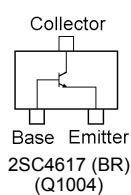
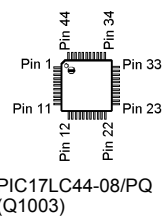
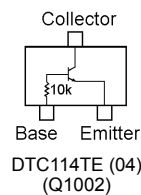
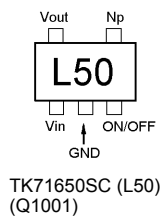
Parts Layout



Side A



Side B



F5D-14 5-Tone Unit

Parts List

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
*** F5D-14 ***										
	Printed Circuit Board					FR006510B		1-		
	Printed Circuit Board					FR006510D		3-		
C 1001	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	
C 1002	CHIP CAP.	0.0018uF	50V	B	GRM36B182K50PT	K22178812		1-	A	
C 1003	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	
C 1005	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	
C 1006	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	
C 1007	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	
C 1008	CHIP TA.CAP.	10uF	6.3V		EEJK0JS106R	K78080079		1-	A	
C 1008	CHIP TA.CAP.	10uF	6.3V		ECST0JZ106R	K78080078		8-	A	
C 1009	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	
C 1010	CHIP CAP.	0.0027uF	50V	B	GRM36B272K50PT	K22178814		1-	A	
C 1011	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	
C 1012	CHIP CAP.	18pF	50V	CH	GRM36CH180J50PT	K22178218		1-	A	
C 1013	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	
C 1014	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	
C 1015	CHIP CAP.	18pF	50V	CH	GRM36CH180J50PT	K22178218		1-	A	
C 1016	CHIP CAP.	0.1uF	10V	B	GRM36B104K10PT	K22108802		1-	A	
C 1017	CHIP CAP.	0.01uF	16V	B	GRM36B103K16PT	K22128804		1-	A	
C 1018	CHIP CAP.	0.001uF	50V	B	GRM36B102K50PT	K22178809		1-	A	
C 1019	CHIP TA.CAP.	1uF	6.3V		TMCP0J105MTR	K78080071		1-	A	
C 1020	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	A	
C 1021	CHIP CAP.	100pF	50V	CH	GRM36CH101J50PT	K22178236		1-	A	
D 1001	DIODE				MA2S111-(TX)	G2070614		1-	A	
J 1001	CONNECTOR				AXK5S40035P	P1091012		1-	A	
L 1001	M.RFC	22uH			ELJ-FC220K	L1690201		1-	A	
Q 1001	IC				TK71650SCL	G1093136		1-	A	
Q 1002	TRANSISTOR				DTC114TE TL	G3070225		1-	A	
Q 1003	IC				PIC17LC44-08/PQ	S8100917		1-	A	
Q 1004	TRANSISTOR				2SC4617 TL R	G3346178R		1-	A	
Q 1005	IC				MD09	G1093276		1-	A	
Q 1006	IC				BR93LC66FV-E2	G1092853		1-	A	
R 1001	CHIP RES.	18k	1/16W	5%	RMC1/16S 183JTH	J24189040		1-	A	
R 1002	CHIP RES.	0	1/16W	5%	RMC1/16S JPTH	J24189070		1-	A	
R 1003	CHIP RES.	82k	1/16W	5%	RMC1/16S 823JTH	J24189048		1-	A	
R 1004	CHIP RES.	0	1/16W	5%	RMC1/16S JPTH	J24189070		1-	A	
R 1005	CHIP RES.	470k	1/16W	5%	RMC1/16S 474JTH	J24189057		1-	A	
R 1006	CHIP RES.	1M	1/16W	5%	RMC1/16S 105JTH	J24189061		1-	A	
R 1007	CHIP RES.	22k	1/16W	5%	RMC1/16S 223JTH	J24189041		1-	A	
R 1008	CHIP RES.	1k	1/16W	5%	RMC1/16S 102JTH	J24189025		1-	A	
R 1009	CHIP RES.	100k	1/16W	5%	RMC1/16S 104JTH	J24189049		1-	A	
R 1010	CHIP RES.	5.6k	1/16W	5%	RMC1/16S 562JTH	J24189034		1-	A	
R 1011	CHIP RES.	10k	1/16W	5%	RMC1/16S 103JTH	J24189037		1-	A	
R 1012	CHIP RES.	22k	1/16W	5%	RMC1/16S 223JTH	J24189041		1-	A	
R 1013	CHIP RES.	47k	1/16W	5%	RMC1/16S 473JTH	J24189045		1-	A	
R 1014	CHIP RES.	33k	1/16W	5%	RMC1/16S 333JTH	J24189043		1-	A	
R 1015	CHIP RES.	10k	1/16W	5%	RMC1/16S 103JTH	J24189037		1-	A	
R 1016	CHIP RES.	47k	1/16W	5%	RMC1/16S 473JTH	J24189045		1-	A	
R 1017	CHIP RES.	47k	1/16W	5%	RMC1/16S 473JTH	J24189045		1-	A	
R 1018	CHIP RES.	47k	1/16W	5%	RMC1/16S 473JTH	J24189045		1-	A	
R 1019	CHIP RES.	330k	1/16W	5%	RMC1/16S 334JTH	J24189055		1-	A	
R 1020	CHIP RES.	82k	1/16W	5%	RMC1/16S 823JTH	J24189048		1-	A	
R 1021	CHIP RES.	15k	1/16W	5%	RMC1/16S 153JTH	J24189039		1-	A	
R 1022	CHIP RES.	10k	1/16W	5%	RMC1/16S 103JTH	J24189037		1-	A	
R 1023	CHIP RES.	100k	1/16W	5%	RMC1/16S 104JTH	J24189049		1-	A	
X 1001	XTAL 94SMX	8MHz			8.000MHZ	H0103248		1-	A	
	BLIND SHEET					RA0109300		1-		



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